

The Canadian Medical Association Journal

VOL. IX.

TORONTO, DECEMBER, 1919

No. 12

MENTAL HYGIENE IN RELATION TO SOCIAL HYGIENE

BY A. H. DESLOGES

Montreal

THE kind invitation of Doctor Pagé has brought me before this assembly with the burden of addressing you in a language which is not the daily vehicle of my thoughts. However, the difficulty is alleviated by your kind sympathy and the keen pleasure I experience from being in the midst of confrères, animated with the most laudable zeal for the betterment of humanity. To advance science in all fields of society is a noble aim and worthy of all our activities. I always feel at ease in such society. I am sure to find in your hearts the indulgence I need for this paper, which I am presenting to you with a deep consciousness of our social needs, and an ardent desire to bring about an alleviation of these.

I desire to show first what has been done for the betterment of the treatment of the insane, and then indicate what mental hygiene is able to do to diminish the dangers to which we are exposed, and to stop, if possible, the threatening tide of insanity.

Let us first cast an inquisitive eye into the history of mental medicine. This inspection will reveal to us the wonderful progress that this branch of medical science has made since the days of Hippocrates to our own period.

In the primeval days of medical knowledge, insanity was ascribed to the influence of a favourable or an irritated deity. The insane were god-possessed. Most of them were said to be the prey of the infernal deities, but some were thought to be the friends of the superior gods, to be inspired by them and able to tell the future

Read before the Canadian Medical Association, June 26th, 1919.

by their assistance. The Delphic oracle was one of the most famous examples of these. Virgil describes the Cumæan Sybil as if struggling with the god under whose influence she was about to speak and reveal to Æneas the future of his destiny. "*Phæbi mundum impatiens Bacchatur vates, magnum si pectore possit excusisse deum.*" The poor epileptic, impatient of Phœbus, strives to disburden her soul of her tyrannic ruler, but the more efforts she makes the more the terrible god causes her to writhe with foaming mouth and subdues her ferocious heart; the sybil bellows in her cave, while with much rigour Apollo shakes the reins over her as she wildly raves.

This description is nothing but one of the scenes witnessed every day in our epileptic asylums. But no longer is the sad fate of our patients considered a favour of heaven nor a curse of the Almighty. The insane has been raised to the dignity of a patient. He is no more lashed in order that he may recover.

So long as insanity was deemed to be due to the intervention of the gods, the treatment consisted chiefly in religious ceremonies and practices.

Hippocrates, the creator of the science of mental medicine, was a member of that priestly family, the Asclepiades, who claimed to be descended from Æsculapius, and who had in ancient Greece the monopoly of the art of healing.

He was the first who discerned the pathological nature of insanity. With the most praiseworthy insistence, he strove to oppose the medico-religious practices of the Asclepiades, and to substitute for them a treatment rational and medical. Instead of exorcisms and incantations, he advised purges, emetics and bleeding, a vegetable diet, hygienic exercises, music and travel.

After the days of Hippocrates, medical knowledge and teaching passed from Greece to Egypt, following the dismemberment of Alexander's empire. Little, however, was added to our knowledge of insanity during the next three hundred years.

Asclepiades of Bythynia was the first to divide cases of insanity into acute and chronic alienations. He was also the first to try substitutive medication, and even advised intoxication in the general treatment of mental alienation.

Celsus at first gave wise rules for the hygienic and moral treatment of the insane, but unfortunately in later years advised starvation, chains and chastenings to tame the insane as soon as they began to show signs of want of sense, "*fame, catenis, vinculis coercendus est.*"

Areteus of Cappadocia has bequeathed to us marvellous de-

scriptions of the various forms of mental alienation. A reaction must have taken place in the views of the profession since the days of Celsus, since nowhere in his works is mention made either of ties or ligatures for the phrenetic, or even for the violent.

Similarly in the works of Coelius Aurelius, who describes himself as a translator of Soranus, coercion is no longer recommended. After an admirable exposition of the rules for the moral and physical treatment of the insane, he makes an eloquent pleading for the suppression of coercive measures.

Let me quote what he says against physicians who have recourse to violence: "They rather do seem to be delirious than disposed to cure their patients when they compare them to ferocious beasts to be tamed by the want of food and the torture of thirst. Led away also by the same error, they wish us to load them with cruel chains, without realizing that their limbs might be thereby bruised or broken, and that it is more decent and easy to restrain them by the hand of man than by the useless torture of iron bands. They even go so far as to advise corporal violence, scourging, as if to force the revival of reason by such a provoking treatment; wretched mode which does nothing but aggravate their state, stain with blood their limbs, and offer them the sad spectacle of their pains at the very moment they recover the use of their brain and wit."

Galenus, the celebrated physician of Pergamos, who wrote five hundred treatises, and whose ideas had so great an influence for fourteen centuries, has said but few things about mental alienation. He divided it into idiopathic and sympathetic insanity, or insanity by consensus.

After the death of Galenus, all medical knowledge falls into obscurity and confusion. Even the Arabian physicians, Rhazes and Avicenna, only develop the ideas of Galenus about insanity by consensus, the seat of which they placed in the liver and the spleen.

The Middle Ages were dominated by a belief in the influence of devils; superstition existed far and wide. Thousands of poor wretches died victims of the ignorance and prejudices of the crowd, and lost their lives owing to the loss of their reason and became the prey of the flames. Only towards the end of the sixteenth century did physicians slowly come back to sound traditions. About this time numerous physicians contributed to the advancement of mental science, Alciatus, Montague, Baillou, Lepois, Platea, Sennert, Bonet, Zacharias, Sydenham, Willis, Nieussens, Boerhaave, Morgagni, Sauvages, Lorny, Cullen.

With Cullen, who died in 1792, we have advanced far beyond

the ignorance of the Middle Ages, but the condition of the insane was yet deplorable. They lived scattered in prisons and in a few refuge houses. Very few were received in hospitals. The treatment consisted invariably in shower-baths, cold baths, and repeated bleeding with the administrations of hellebore, purgatives and antispasmodic remedies. When, after a few weeks of such a regime, the sick failed to recover, he was sent to the "*Petites Maisons*", to La Salpêtrière, or Bicêtre, in France, to Bedlam, in England.

There, badly fed, covered with rags, loaded with chains and iron collars, in filthy cells, once destined for criminals, lying on rotten straw, breathing a mephitic air, they dragged out a miserable life, exposed to the eye of the public, who, on feast days, were admitted, for money, to look at this spectacle and tease the poor wretches, as if they were wild beasts, through the iron bars of their cage.

Sir Bennet could say in the Lower House, referring to this:—"If ever an institution was a disgrace to England, it is Bedlam."

Then came Pinel, who was made head of the insane service at Bicêtre, in 1793. He caused the chains of the insane to be struck off. By his forceful initiative and perseverance, he accomplished what others had vainly desired, the rehabilitation of the insane and his restoration to the dignity of a patient suffering from an illness.

"To keep," said he, "in a habitual state of seclusion and restraint the extravagantly insane, to deliver them helplessly to the brutality of servants and custodians under the pretence that they are dangerous to the public, to drive them, in a word, with an iron rod, as if to accelerate the end of an existence deplorably wretched, is no doubt a most convenient method of supervision, but is a method which owes its origin to centuries of ignorance and barbarity."

About this same period, Doquin, in Savoy, Chiaruggi, in Italy, and Tuke, in England, also carried out reforms.

But Pinel was more than a reformer; he was a man of science and his "*Treatise on Mania*" is justly celebrated. Cuvier could say of it in the Institute of France, that "his booklet was not only a book on medicine, but was also capital work on philosophy and even on morality."

In France, Esquirol, the successor of Pinel, had as great an influence on mental medicine as Pinel had on the moral condition and treatment of the insane. He was a philanthropist, a reformer, a scientist and a master. He developed a school of famous disciples.

Their list is a long one. Under their impulse, psychiatry has made, in all countries, great progress. The characteristic of this advance movement is the effort to apply to psychiatry the scientific

data and methods of modern general pathology. Psychiatry has ceased to be a single chapter of philosophy, it is now, and will become more and more a branch of medical science, or rather of biology.

Thanks be to God, the old methods have given place to more humanitarian ways. The insane are now treated with charity and science in well organized hospitals, and especially in those in which the superintendent possesses a deep sense of the dignity of man and holds the principles of an enlightened philanthropy.

However, although we can now point with some satisfaction to these improvements in the condition of our hospital patients, we should not conclude that the organization is complete. To treat the insane well is very good, but something should be done to prevent the overcrowding of our institutions. The most complex problems are before us. So many causes contribute to increase the number of lunatics, that if we do not find immediately the means of damming this increasing tide of alcoholism, syphilis and other deteriorating influences, the nation may be overwhelmed and sink under the curse of feeble-mindedness. To prevent this, we welcome the powerful assistance of the Society for Hygiene. This organization will accomplish much if all medical men and social workers as priests, teachers and others try to enlighten the people as to the dangers to which they are exposed, if they ignore the principal causes of insanity.

Such an education of the people will develop better conditions and the evils of alcoholism, syphilis, and heredity will be lessened.

These three causes of insanity are not the only ones, but they are considered the most important.

Alcoholism is a well recognized disease which progressively impairs the mind, will, strength and manual skill of a man. The loss of reason may follow as a consequence of too frequent intoxication or of a constant state of inebriety, which may be said to be a temporary insanity. The errors about alcohol are deeply rooted, but, in these latter days, the evidence of its noxious action has caused many to recognize sounder principles. When a man is thirsty, he thirsts for water, and water should be given him and not alcohol.

Our hospitals and asylums would be more than sufficiently large, if there were no alcoholics, for out of every two persons in them, one is an alcoholic.

Alcohol is one of the universal providers of lunatic asylums, and intemperance might be styled one of the most active agents to keep the doctors busy.

The recent law adopted by the government is one from which we may expect the best results, and the prime minister should be congratulated for having preferred the interests of his fellow-citizens to those of the bar-keepers. This law of temperance, as we may call it, will bring whisky drinkers to prefer wine and light beer or cider to their poison. The general health will be enhanced and, consequently, in sounder bodies we may hope to see sounder minds.

As an alienist, I cannot be in favour of total abstinence. However, I am satisfied with this mitigated law of prohibition. The drunkard, you may be sure of it, will continue to get drunk just the same, but the new generation, the young men who have not lost their sense of dignity and decency, will never become drunkards and alcoholic fathers will cease to breed a brood of candidates for the lunatic asylums.

The next cause of insanity is syphilis. The disastrous effects of this contagious disease are well known to the physician, but the public are unaware of its dangers, of its contagiousness, and of its frequency. The lady buying in the store is ignorant that the syphilitic girl that serves her may be the cause of infection to her and her family. This disease is growing very frequent, and physicians who know of it must use every effort to check it.

It is a pleasure to me to state that at the last meeting of the Quebec Legislature, the Provincial Board of Hygiene has had a bill accepted which will surely bring good results. This legislation will contribute to lessen the number of cases of general paralysis. It will, to say the least, give to those afflicted by this malady, the means of being scientifically treated, without being ruined by so-called specialists.

Physicians on all possible occasions should teach their clients the dangers of the day. Do not speculate on human degeneration. Let your ambition be that of being a healer, a saver, a helper, a giver of health, happiness and joy, a distributor of life, a consoler, and your reward will follow surely. As we sow, so shall we reap. The serious consequences of syphilis should be known to all, and we should take our part in the education of the public.

A third cause is heredity. Please permit me to quote a few lines from Morel. "By the observation of the links and the reciprocal dependence of pathological phenomena, transmissible through heredity, I came to create the important varieties of hereditary alienations. I have proved that betwixt the simplest anomaly in the laws of moral sensibility designated under the name of moral mania, reasoning mania and those states more or less properly

called imbecility, idiocy, cretinism, there exists a consecutive gradation."

Heredity, it is certain, is a great factor in mental alienations. Alcoholic heredity, says Dupuy, is the most frequent cause of idiocy, feeble-mindedness and madness. The sons and daughters of alcoholics have a tendency to pseudomania, to kleptomania, to dipsomania. "The drinker," says he, "breeds the degenerate and the degenerate breeds the drinker."

As to heredity through syphilis, it is no less obvious.

But what have we done to come to practical results? Have we reflected upon the cerebral ravages caused by epilepsy? This sickness is hereditary, when not the result of intoxication or an accident. Have our medical societies, in lectures and reports, and has the physician in his office, given practical advice to the sick or his relatives? Has anything been done to enlighten the bride or the bridegroom on the necessity of avoiding marriage with an epileptic? Has anything been done to check marriage to the syphilitic? Have parents been informed on the dangers of letting their daughters marry a drunkard, a debauchée, a syphilitic, or an epileptic?

The time will come when candidates for marriage will have to show their sanitary testimonials in order to be allowed to legally enter upon it, when everyone will feel the necessity of protecting himself against the possibility of contagion and of a breed of feeble-minded children.

I am happy to note that the alarm has been sounded, and that as a consequence the Society of National Mental Hygiene has been organized, because the mentality of the community is menaced.

Under the impulse of an epileptic and hallucinated Kaiser have we not seen a whole nation stricken with a fit of megalomania? The result has been the terrible war now about to be ended by the signing of the Treaty of Versailles. In other countries we can observe the frenzy of Bolshevism, a collective insanity under the impulse of socialistic subversive literature threatening to invade the world.

Much remains to be said, but I must conclude, for in a brief paper we can only give but a meagre and inadequate sketch. We have merely invited your attention to the subject of mental hygiene. Those wishing to interest themselves will find much to be accomplished in this field; physicians who appreciate the situation, and are ready to take their share in educating their patients on these fundamental facts to which I have referred can do great good, and by the united efforts of the profession, much of the sorrow and misery of this world will in time be alleviated and disappear.

MULTIPLE INFARCTS OF THE SPLEEN IN MALIGNANT ENDOCARDITIS, RUPTURE OF THE SPLEEN AND PERITONITIS

BY PROFESSOR A. VALLÉE

Laval University, Quebec

I RECENTLY had the occasion to make a post-mortem examination of a patient whose case was a most interesting one, both from its complexity, and in the numerous and complete pathological entities it presented. For many reasons the clinical and necropsic observation of the case should be reported, both on account of the numerous difficulties met with in making a definite and complete diagnosis, and also for the study and co-ordination of the lesions which were found after death.

Clinical Observations. The patient was a man aged forty-five years, who had been addicted to drink for many years. He was admitted to the medical wards of the Hôtel Dieu Hospital, Quebec, in July, 1917, suffering from cardio-renal troubles. He presented very distinct murmurs of insufficiency both of the aortic and mitral valves, and also very marked evidence of Bright's disease, with oedema and ascites. The analysis and microscopical examination of the urine revealed albuminuria with numerous hyaline casts, red blood corpuscles, leucocytes in abundance and renal cells.

These symptoms lasted without change until early in September when the quantity of leucocytes became so abundant in the urine as to be soon recognized as pus. However, the cardiac and renal symptoms did not in any way appear to be increasing in a serious manner. At the time a slight rise in the temperature was noticed, the fever being very irregular without marked exacerbations, but with complete remissions, facts which suggested the possibility of a suppurative lesion of the kidney. In addition, the patient complained four or five days before death of a very acute pain located first in the right hypochondrium and soon afterwards in the left, which became intolerable. This pain disappeared later, to increase again on the evening before death; it was then well located in the left and upper portion of the abdomen. The next day a

careful investigation showed a painful reaction of the abdomen, without any particular location of the pain, nor any ectasis or distension of the bowels. The patient died during the night.

To the first diagnosis of cardio-renal lesions, were certainly to be added other disorders which could not easily be defined, special attention having been given during life on many accounts to the kidney.

Post mortem. The post mortem furnishes more important details. On opening the chest, we first found adhesions of the whole of the left pleura and a slight congestion of both lungs.

There were a few grams of yellow liquid in the pericardium, and milky maculae on the visceral serous membrane. The heart weighed 450 grams. On trying the water test, a very wide insufficiency of the aortic valve could readily be demonstrated. This valve was thoroughly altered, the *nidi hirundinis* had almost disappeared, and instead we could see a few simple vegetations on the upper surface, but vegetative and ulcerative ones facing the ventricle. These vegetations were of a dark colour, and filled the whole of the sigmoid cavities, or rather pushed them back to the aortic wall. The commissures were worn out, and the slightly thickened edges were dull and white.

On the mitral valve there was slight sclerosis along the edge with white trabeculae scattered all over it and two small vegetations lying on the auricular surface of the valve a short distance from the edge. These vegetations, the largest of which on the large valve was not more than 3 or 4 mm. in diameter, were irregular, resembling a mulberry of a brownish colour, and scarcely adherent. The other valves showed nothing particular except slight sclerosis. The slightly thickened parietal endocardium was specially altered in the metro-aortic region where sclerosis was more marked and of a distinct white colour. Myocarditis was evident with slight hypertrophy of the left ventricle.

Small atheromatous spots without calcification could be seen all over the aorta, and were particularly numerous and larger on the abdominal portion of the artery.

In the abdomen, recently formed pseudomembranes could be seen on the omentum, the intestine and mesentery. A large quantity of liquid (a few liters) of a dark brownish colour overflowed, and the parietal and visceral peritoneum presented characteristic haemorrhagic spots.

There was nothing to be noticed as far as the appendix, the intestine, the stomach, or the pancreas were concerned. The liver

was enlarged, weighed 1750 grams, and was hyperæmic. Nothing so far could explain the presence of the well characterized peritonitis, but on examining the spleen it was found to be very large, soft, almost fluctuating, friable and ruptured. It weighed 415 grams. The capsule, slightly thickened, was covered with pseudomembranes of a deep yellow colour at the superior pole, and of a purple gray in the inferior one. On taking out the spleen, many slashed irregular ruptures, easily compared with certain large cavities of the lung in tuberculosis, as described by Cornil and Ranzier, were to be seen in it. On a section we found an immense infarct of a pinkish yellow colour with its base to the outer side of the organ, and the apex at the hilum (very typical infarction). In the centre all the blood vessels presented thrombosis. The pale colour of this infarct indicated that it had taken place at least some days previously; it was easily differentiated from the rest of the splenic tissue which was of a dark red, and congested in the parts where the blood could still circulate. The ruptures of the organ were covered with pus, and numerous fissures had dissected the spleen on all its different portions, carving it in different ways. In the interior there were cavities filled with a thick black fluid, which characterizes suppurative lesions of the spleen.

The pulp was sprinkled with pink, gray, and deep brown dots. The disintegration was such in certain parts that it seemed similar to those cases of gangrene of the spleen following diffuse abscess of this organ, and indicated the existence of many infarcts.

The left kidney was congested and had a thickened capsule which, however, could easily be removed. The tissue was granular with large dentations, the cicatrices of old infarcts. One on the outside was a full centimetre deep. The pyramids were also congested, and everywhere could be seen a petechial haemorrhage. The cortex was thin with tracks of hyalin degeneration. The left kidney weighed 210 grams. The right kidney presented the changes together with cicatrices. The rest of the genito-urinary tract was normal.

Microscopical examination. The microscopical test examination of the spleen, kidney and myocardium verified the changes seen at the post mortem. Many slides were prepared, all of which gave the same results.

In the spleen there was a diffuse sclerosis of all interstitial tissues and arteries. The pulp substance was granular, at some points it had altogether disappeared and only the reticular tissue could be seen; this was even destroyed at some points where cavi-

ties filled with pus could be seen. The vessels were mostly all plugged. The Malpighian corpuscles were enlarged and many of them had ruptured.

The bacteriological investigation showed numerous cocci, mostly isolated singly, but a few of which could be seen also in small clumps. They were gram positive and appeared to be staphylococci. Cultures had not been set out.

The kidney showed very plainly a subacute nephritis with numerous nodular collections of leucocytes scattered everywhere and all the common phenomena of sclerosis, haemorrhage, and degenerative alterations in the tubuli and glomeruli.

Myocarditis with tracts of polynuclear cells and vitrous degeneration could be seen in the sections from the heart.

Diagnosis. The diagnosis, although complex, is now made easier. The patient suffered from a malignant subacute endocarditis, with subacute nephritis and pyæmic infarcts of the spleen. This last alteration was the cause of a rupture of this organ and peritonitis. The infection was probably due to staphylococci.

Malignant endocarditis is generally the consequence of an infectious disease or pyæmia, and under these circumstances the diagnosis is simple, on account of the sudden existence of cardiac manifestations and symptoms. In other cases, malignant endocarditis will appear in the course of an old cardiopathy, and will then be recognized by an increase in the symptoms of cardiac disease, and the appearance of symptoms of a very general character in the patient's condition. In very rare circumstances these cases of endocarditis appear suddenly, the patient being apparently in perfect health.* Subacute malignant endocarditis does not proceed in the same manner. It is often recognized as the first manifestation of any infectious trouble, appearing in the course of an old chronic cardiopathy, the valvular alterations becoming an elective point for the action of the micro-organisms. The clinical diagnosis is still more difficult in this variety on account of the knowledge of pre-existing cardiac lesion, the lack of temperature, or at least of irregularities in it,† the absence of symptoms which indicate one of the typical forms of acute endocarditis, namely, the cardiac, the meningitic, the typhoidal, or the pyæmic. These are exactly the facts which occurred in this case, and would easily mislead a diagnosis, on account of the aortic insufficiency present, which Huchard has described‡ under the title of "Aortic insufficiency of

*Bouchard et Brissaud: *Traite de Medecine*, vol. viii, page 314.

†Balthazard et Macaigne: *Precis de Pathologie Interne*.

‡Huchard: *Six Lecons Cliniques sur les Maladies du Coeur*."

arterial origin." Under such circumstances special attention is often drawn to the renal function as was the case in this patient. The preceding history (alcoholism) and the concurrent mitral alterations assisted in this diagnosis.

We shall not insist upon the myocarditis and pericarditis, these facts being of no special value in the present case.

The diagnosis might have been made when the rise in temperature and the abdominal pain occurred, but the presence of pus and the pain in the right hypochondrium made it doubtful. The infarct of the spleen which most certainly occurred at that moment could not be diagnosed by clinical symptoms unless attention had been specially called to that organ by a very careful investigation showing hypertrophy and a well localized tenderness as well as the pain. Even then it often remains unperceived.

In fact, if perceived, it might give a true knowledge of the existence of malignant endocarditis, these infarcti being really one of the most constant accidents in this lesion, the kidney and all terminal vessels being also possibly plugged by emboli. On the other hand, malignant endocarditis may be considered as the most frequent cause of infarcti of the spleen. The emboli in these cases are mostly always the consequence of a particle of a valve, vegetations, or fibrinous tissue detached from the altered valve. In a few instances they may be due to micro-organisms only, as occurs in typhoid, or they may be produced by thrombosis of the splenic artery or its terminal branches, following sclerosis of this vessel.

This, or these, infarcti, for most frequently they are many* once they exist, do not always produce fatal accidents, specially when the infarct is not of an infective nature. It can then disappear, leaving only sclerosis and a cicatrix, such as was to be seen in the kidneys. The abscess of the spleen on the contrary, is not frequent; however, Osler points out that the most frequent of these abscesses is the one following a septic embolus which can mostly always be diagnosed only at the post mortem.

Rupture of the spleen does not often happen as a consequence of an abscess due to infarct, and on this account Osler is the only author whom I could find, who mentions the fact†. The most important symptom of this rupture of the spleen being the haemorrhage which follows, it seems important to know the fact, for in a rupture following an infarct, the blood having no access to the

*Bouchard et Brissaud: *loc. cit.*—Cornil et Ranvier: *loc. cit.*

†Osler: "Modern Medicine."

portion which is ruptured, this symptom will be lacking, and in fact it was lacking in our case, in which peritonitis was the only and easily understood phenomena.

As for the subacute nephritis, its clinical symptoms had been very distinctly noted, and there is no use insisting on the fact, except to emphasize the importance of a perfect and complete diagnosis between the presence of pus and simple hyperdiapedesis of leucocytes, even in greater number in the urine. The absence of all suppurative lesions in the urinary tract evidently proves here that there was at least no microscopical alteration of this kind.

On the bacteriological account many conditions pointed to the diagnosis of staphylococcus. The special appearance of the microbes as perceived on the slides, the benign evolution of the infection, seem to prove this fact. Pneumococcus could have given a primitive endocarditis without other infection by this microbe, but metastasis does not seem as frequent in its case. Streptococcus shows more seriousness in the clinical symptoms. Other pus forming organisms have a known origin in a definite process. Bacilli can be put aside, even those specially described as causing endocarditis, the specimen diagnosed here being a typical coccus. Anyhow the investigation of the bacterial origin being incomplete through the cultures not having been made, the data upon this point cannot be exactly confirmed.

A GIFT of \$20,000,000 from John D. Rockefeller for the improvement of medical education in the United States was announced recently by the General Education Board. The official announcement states that the income of the \$20,000,000 is to be used, and the entire principal is to be distributed within fifty years.

THE PRACTICAL ASPECTS OF QUARANTINE FOR INFLUENZA

BY DR. T. H. WHITELAW

Medical Officer of Health, Edmonton, Alberta

PROBABLY never before has the medical profession been confronted with a more baffling problem than has been presented by the influenza epidemic, both as to its possible prevention and treatment. The apparent futility of practically all measures of prevention, some of which were, at the outset, acclaimed with great assurance by members of our profession, and the failure of any particular line of treatment of the many practised and advocated to be generally recognized and adopted, as being specially advantageous, make it incumbent on one attempting to discuss any phase of the subject to approach it with becoming modesty and diffidence.

Influenza began to appear in Edmonton about October 11th, 1918. From October 15th, by special regulations of the Provincial Board of Health, the disease was made reportable and subject to modified quarantine by placard similar to that used for measles, whooping cough, etc.

Before the disease had become epidemic, the City Board of Health, on October 18th, ordered the closing of all schools, churches theatres, picture shows and all public meetings generally.

The Provincial Board of Health on October 25th passed a resolution ordering every person in the Province of Alberta to wear a mask outside of his or her house or residence, except when necessary to partially remove the mask for the purpose of eating.

This order was continued in force until November 23rd, when it was made optional, after which practically no masks were worn except in hospitals by nurses and attendants. Had this mask order been instituted a few days before the epidemic reached its peak, it would probably have been acclaimed as the chief factor in bringing about the rapid subsidence of the epidemic, but unfortunately for the extravagant claims made in justification of the mask order as a means of prevention, the number of cases of the

disease continued to increase rapidly for some time after the order was enforced, and public confidence in it as a prevention soon gave place to ridicule. It will thus be seen that nothing was neglected which in theory might possibly have prevented the spread of the epidemic, but the apparent futility of all the laudable attempts at control, are indicated by the following figures, which do not include the two hundred and forty-nine non-residents, coming to the city for treatment, of whom over 30 per cent. died.

	Cases reported	Deaths
October.....	2208	61
November.....	2323	254
December.....	1258	76

With this digression, I will now confine myself to the consideration of the quarantine for influenza attempted as one of the means of prevention.

At the outset of the epidemic, some physicians were reluctant to admit that the cases were genuine cases of the so-called "Spanish influenza", but later, when numerous deaths occurred, it became apparent to even the most conservative that the real disease prevalent in the East was actually in our midst with its frightful toll of death.

In spite of the energetic work of the officials of the health department, in promptly following up all reports of physicians, and information derived from all other sources, by placarding premises and establishing quarantine, it is apparent that the number of cases above reported and quarantined did not at any time represent more than 60 per cent. of the actual number of cases in the community. Hundreds of cases, whether a physician was in attendance or not, were of so doubtful or mild a nature as to be regarded as common colds, and as a result, no quarantine or placard could be affixed. The difficulty of establishing an accurate diagnosis in many of the milder cases was the stumbling-block in the way of carrying out quarantine measures efficiently. Many citizens regarded the placard as an injustice, either because they did not believe the diagnosis justified, or because their neighbours were alleged by them to be avoiding quarantine by concealment or evasion. Some physicians began to be careless or indifferent in reporting their cases, because they alleged that other physicians were not reporting their cases, and charges of discrimination were frequently made against the officials of the health department, on

whom the duty of placarding and establishing quarantine devolved. The number of houses to be placarded and quarantined was so great, that the limited staff of health officials was greatly overworked, and all, except two, suffered from and recovered from the disease during the epidemic. To have attempted prosecutions in all alleged and real cases of failure to report the disease on the part of householders or physicians would not in my opinion have been of any practicable benefit, for the reason that no magistrate would be likely to convict on evidence, which, owing to the impossibility of absolute certainty in the diagnosis of most cases, must necessarily be contradictory or at least doubtful.

It did not appear that those who took the most elaborate precautions to avoid the infection enjoyed any greater immunity from attack, than did those who appeared to take no precautions whatever. The maintaining of bodily health by normal living and the avoidance of panic, worry or fatigue, seemed to be the only practical method of combatting the infection. The element of fatigue among doctors and nurses who necessarily had to work long hours, undoubtedly accounted for their tendency to eventually fall victims to the disease, rather than the element of special exposure which their work entailed.

From the above considerations I can only conclude that the quarantine and placarding for a disease of the peculiar nature of influenza is impracticable, and the expenditure of time, energy and money in attempting to carry out such a law appear to be disproportionate to any apparent benefits derived therefrom. The fact that the quarantine imposed was only a modified one, which permitted all except the person or persons affected to enter or leave the premises, has led some physicians to suggest the advisability of making the quarantine a strict one, as is the case in scarlet fever or diphtheria. The practicability of applying strict quarantine to influenza is doubtful, as the following considerations indicate.

In influenza there are many grades of severity, from the severe abrupt onset, followed quickly by dangerous developments, chiefly pneumonia, so-called, to the slight indisposition which resembles a common cold or coryza, and from which it is impossible to distinguish it. The accurate diagnosis of hundreds of cases is therefore very difficult, and many physicians hesitate to pronounce such cases as influenza or to report them as such. For this reason, and also because no physician at all may have been called, many cases of influenza even under our present modified quarantine law remain unreported. To change this to a rigid quarantine would

undoubtedly have a decided tendency to increase this hesitation of physicians to report cases and also add largely to the number of householders, who in their desire to avoid quarantine of any kind, neglect to call in their family physician as long as possible. There is some justification for believing that certain physicians are given a preference, and profit thereby, because they are known to belong to this hesitating class and because fewer placards follow on their trail than on that of the more conscientious physicians, who gave the public the benefit of the doubt by reporting even their doubtful cases as suspicious. Physicians who lack public conscience should undoubtedly be prosecuted, but the difficulty of obtaining a conviction in the case of such a disease as influenza is obvious, and can only be appreciated by the health officer who has attempted such prosecutions under our present laws.

That the disease was much more prevalent and affected a much larger proportion of the people than the worst epidemic of scarlet fever, diphtheria, and smallpox, we are every likely to have, is apparent. Were it similar to the above rigidly quarantined diseases as to its prevalence and method of transmission, nobody could reasonably question the wisdom of applying to it the most rigid form of quarantine. But we do not yet know with absolute certainty all the avenues by which it is transmitted, and to put on a strict quarantine and maintain it effectively against such an insidious and extremely prevalent affection as we now know it to be, if we take into account the great variety of its manifestations, would necessitate an army of inspectors or policemen and a whole fleet of delivery rigs supplying food at the public expense.

In Chicago, notification and isolation of the patient was required, but placards were only affixed to premises where the occupants had been delinquent in obeying the law *re* notification of the health department and isolation of the patient as far as possible. This method is believed to have secured a much better notification of cases than our system of placarding, which appears to penalize those who honestly try to co-operate with the health department, while those who conceal the disease or neglect to report in large numbers, are subjected to no inconvenience and cannot be prosecuted in the majority of cases with any hope of success. The law regarding modified quarantine associated with placarding of the premises, as applied to the minor diseases, German measles, measles, whooping cough, mumps, and more recently influenza, is, generally speaking, more honoured in the breach than in the observance. Can any health officer safely assert that in his municipality any reason-

able proportion of the cases of such diseases are ever reported to his department, where placards are used? To many of such minor affections no physician is called, and there is little doubt that the desire to avoid quarantine and especially the placard, which unfortunately appears to be regarded with so much disfavour, deters many from calling in their physicians. In Edmonton, knowledge of the majority of such cases is derived from the school teachers who report to the health department all children absent from school without proper explanation. Where there are no children of school age, it is quite possible for such minor affections to exist and recover without detection.

To sum up, it is evident, that no public health law, which has not the endorsement and support of the public generally, can ever be reasonably well enforced. Human nature cannot be altered, but laws can be, and it seems desirable that our regulations regarding quarantine should be revised in such a way as to secure the maximum co-operation of the community, including the medical profession, in their enforcement. The apparent success of the method followed in Chicago in connection with influenza cases, suggests that the same method might work out advantageously in many of the minor and less serious infections now placarded under the name of "modified" quarantine, and secure a much more efficient control of these infections by health departments. It would penalize by a placard only those who failed to report and submit to the instructions of health officials, and would thus be a strong incentive in securing the co-operation of the public generally with health departments in the prevention, as far as possible, of the minor infections, which are unfortunately regarded so lightly by the majority of the community in spite of the fact that many untimely deaths result from them.

I am aware that some reasonable arguments can be advanced in support of placarding the minor or modified quarantine infections, but in my opinion the disadvantages of such a measure, from the standpoint of possible prevention and control, far outweigh the advantages. Following the world war, we hear a great deal about co-operation in all lines of human endeavour. Would it not be possible to secure a greater measure of co-operation of all the forces in our community, in obtaining the maximum efficiency in the enforcement of our public health laws, by reorganization and revision of these along the lines of sane and reasonable regulations which are in accord with the latest and most reliable information derived from scientific investigation, experiment and experience?

TREATMENT OF INFLUENZA

By F. H. WETMORE, M.D.

Hampton, N.B.

THE incidence and mortality rate of this disease in the recent pandemic were so high, and the probability of its near recurrence is so great, that treatment both prophylactic and curative becomes of vital importance. Let us see what our recent experience throughout the world has taught us.

Prophylactic measures. In preparing for another outbreak, the health department should again have ready a list of available nurses, and the doctors should be asked to report cases of the disease to the department.

A committee appointed by the American Public Health Association at its annual meeting, held in Chicago last November, to give a report on the disease and formulate rules for its prevention, stated in part that we should:

1. "Break the channels of communication by which the infective agent passes from one person to another."
2. "Render persons exposed to infection immune or at least more resistant by the use of vaccines."
3. "Increase the natural resistance of persons exposed to the disease by augmented healthfulness."

1. The channels of communication by which the infective agent is conveyed from person to person are recognized. And some of the methods by which these channels are broken are, isolation of the sick, wearing of masks, and washing of hands by the nurses and attendants, and the care of the sputum. Pamphlets containing these and other directions might well be prepared by the health department, and distributed freely to the public through the post offices, public schools, etc. But these measures and the closing of public places were put in force during the last epidemic, and were found to be lamentably inefficient in checking the spread of the disease. There were too many light, unrecognized cases—carriers of the disease—the so-called contact cases—to say nothing of the

probability of healthy carriers—whose actions, of course, could not possibly be controlled. Let us then look at the second rule formulated by the Committee, namely:

2. "Render persons exposed to infection immune, or at least more resistant by the use of vaccines." By prophylactic vaccination we have controlled the smallpox scourge, and rendered our armies probably twice as efficient by preventing outbreaks of typhoid and para-typhoid fever. We also vaccinate successfully against dysentery, cholera, and pneumonic plague, a disease the most deadly on record to attendants on the sick, which gives off infected material from the mucous membranes as does influenza. The measures used in preventing attendants from taking pneumonic plague are vaccination, and wearing of masks, followed by gargles and mouth washes. By far the most efficient of these is vaccination. A prophylactic vaccine for influenza, to be of most use, should contain not only Pfeiffer's bacillus, which is supposed to be the cause of the initial symptoms, but also different strains of the pneumococcus, and streptococcus, one or both of which is the cause of the deadly complications—the different forms of pneumonia. An authority on preventive medicine, Dr. E. C. Rosenow, of Rochester, prepared such a mixed vaccine, and found it of great benefit as a preventive in the epidemic. And in different parts of the globe bacteriologists connected with military organizations, which have done much in the past for preventive medicine, have prepared a similar vaccine which they report was of great prophylactic benefit in the recent epidemic.

Major F. T. Cadham, C.A.M.C., of Winnipeg, in the June number of the *CANADIAN MEDICAL ASSOCIATION JOURNAL*, reports the results of inoculation of 4,842 soldiers, out of 7,600 resident in the district. Of the inoculated there were two hundred and eighty-two admissions to the influenza hospital with seventeen cases of pneumonia, 6·05 per cent., and five deaths, 1·7 per cent. Of the uninoculated there were two hundred and thirty-eight admissions, with forty-one cases of pneumonia, 17·1 per cent.; and seventeen deaths, 7·1 per cent.

ADMISSIONS TO HOSPITAL

	Pneu-	Per		Per
	monia	cent.	Deaths	cent.
Inoculated.....	282	17	6·05	5
Uninoculated.....	238	41	17·1	17

Captain D. A. Macdonald, who was in charge of the hospital, states that in the inoculated, the disease and complications were not so severe as in the uninoculated, and the average stay in hospital was only half as long. No soldier who received two inoculations died of the disease.

The records of the use of the same or similar vaccine prepared by Dr. Gordon Bell, chairman of the Manitoba Provincial Board of Health, and used freely among civilians of Winnipeg and the West, show that the incidence of pneumonia was about four times as great, and the mortality rate was four times as great in the uninoculated as in the inoculated.

The Naval Training Station at San Francisco reports in the *American Medical Association Journal*, of March 22nd, 1919, marked beneficial results from the use of a mixed prophylactic vaccine.

A noted contribution to this subject comes from Major J. Pratt Johnson, M.C., D.A.D.M.S., C.A.M.C., Director Clinical Research Laboratories, Johannesburg, South Africa, in the March, 1919, number of *American Medicine*. He has prepared a vaccine from one hundred and fifty virulent strains of *M. catarrhalis*, *streptococcus*, *pneumococcus*, *streptococcus-mucosus capsulatus*, *B. Friedlander*, *B. influenzae*, *B. septus*, and *staphylococcus*, and used it freely not only prophylactically, but also therapeutically, against pneumonia complicating influenza. He says the results have been astounding. The mortality from pneumonia has been enormously reduced by the therapeutic use of mixed vaccines. One practitioner reported over one hundred cases and another two hundred cases of pneumonia treated with mixed vaccines without a single death.

During the epidemic, my own experience in the use of vaccines both prophylactic and therapeutic, was, I believe, much the same as the results given in this paper. A mixed stock vaccine was used, put up by Sherman of Detroit. At my first visit to a case of influenza, unless the type was very mild, a therapeutic dose was given to the invalid and preventive doses to the other inmates of the house. The therapeutic dose was given whether the temperature was high or subnormal. The earlier in the attack the inoculation took place, the less danger of pneumonia developing later. From October 17th to December 22nd, 1918, one hundred cases of influenza and twenty-three cases of pneumonia were reported to the health board, with one death, that of a five months' primipara, who nursed her husband through an attack while ill herself, and developed broncho-pneumonia (a light attack) and marked cyan-

osis before death. This was early in the epidemic before the dangers of a pregnant condition were recognized. Four other cases were lost during the winter—a chronic invalid, who developed pneumonia; a case who had double pneumonia and marked cyanosis when first seen, ten days after the beginning of the attack; a six months' primipara, who nursed her husband until ill herself, and then waited upon herself instead of calling upon the nurse with her bedpan; and a case of pneumonia, with marked delirium and rigidity of the neck muscles, for whom neither vaccines nor medicinal agents proved beneficial. I am well satisfied that on the whole the combined vaccine used was beneficial both as a preventive and for curative purposes.

Prophylactically the mixed vaccine lessens the incidence of both influenza and pneumonia, and renders the disease less severe. Therapeutically it forestalls the toxæmia, and prevents complications.

Curative Treatment. General management. The things that count in the general management of a case are *absolute rest in bed* from the first, fresh air, and good nursing. The bad cases are those that persist in being around, or who are compelled to look after other members of the family, after they are themselves affected. Prophylactic and therapeutic inoculation may be unable to save such a one from the dangerous pneumonia. *Fresh air:* Let the windows be kept open from the first. And if there is any suspicion of lung complications, order the patient's bed brought as near to the open window as possible, and see that the order is carried out before you leave the house. When possible, put the bed in a corner of the room between two windows, kept wide open from top to bottom day and night. Of course see that the patient is provided with plenty of bed-clothing, with artificial heat inside the bed. As in ordinary pneumonia and tuberculosis, so here, absolutely fresh air is life-saving. *Good nursing:* Put a nurse in charge of a case early so as to conserve the resisting power of the patient, and besides, prevent other members of the family from becoming over-fatigued. Without a nurse, one never knows whether or not their orders of vital importance such as clearing out of the primæ viæ, and the keeping up of proper nourishment will be promptly and efficiently attended to. All honour to the nurse, who throughout the recent dangerous pandemic was not afraid to work day and night, hand in hand with the physician, in their life-saving mission, to prevent the patient from drifting on and on, into hopeless, helpless, septicæmic cyanosis!

When called to a case, isolate the patient, arrange masks and hand washing for the attendants, and see that the sputum is properly taken care of. This last can be done by having bits of rags or paper, and a paper bag as a receptacle pinned to the bedside and later burned. See that a bed-pan is available. *Diet:* Give liquids entirely at first. A mixture of milk and lime water is good, one part lime water, two parts milk, of which the patient may take from six to eight ounces every two hours; or milk and raw eggs may be taken, an egg to a pint of milk, half the quantity every two hours. If the case is serious, see that the patient has nourishment at night as well as during the day.

Medicinal treatment: Clear out the digestive tract early with a saline cathartic, such as Epsom salts, preceded by fractional doses of calomel in case of vomiting, and repeat the saline each day unless contraindicated. Acidosis being usually present, alkaline treatment, I think, does as much good as any other, without doing harm. Some give both bicarbonate of soda, c.p., and citrate of potash, giving from seven to ten grains of each drug separately and alternately each hour. A third form of alkali is the lime water and milk. The treatment generally agrees well with the digestive system and the bicarbonate of soda has a tendency to gradually lessen the pains. When alkalies are administered, a somewhat smaller dose of the therapeutic vaccine is required. In view of the oncoming toxæmia and tendency to vaso-motor paresis, we must avoid the coal tar products as much as possible. Aceto-salicylic acid is usually given for the pains. *For the cough,* moderate doses of heroin (1/12 gr.) is given. *Insomnia* also may be treated by heroin, or a stronger opiate.

Circulatory failure. Some autopsies having shown disorganization of the adrenals, one would be inclined to recommend adrenalin chloride solution for cases showing vaso-motor paresis, and lowered blood pressure; and in two or three cases where used, I found it helpful in tiding over a weak spell. To combat the circulatory failure accompanying pneumonia, tincture of digitalis in five to fifteen drop doses every four, six or eight hours has been used a good deal, with or without alcoholic stimulants in half ounce doses. As in other diseases, so here, a dangerous toxæmic condition would appear to be an indication for free alcoholic stimulation.

I wish to draw attention to a condition of localized pleural effusion, which is sometimes the cause of continued high fever in pneumonia. The withdrawal by the needle of even a small amount of serous fluid in such a case, may start the patient on the road to

recovery. *Convalescence:* The patient should be kept in bed from three to ten days after the fever disappears, according to the severity of the case.

A good tonic for convalescence is one composed of quinine hydrochloride, one quarter to half a grain, dilute hydrochloric acid, about ten minims, tincture of nux vomica, five to ten minims, made up with essence of pepsin to one dram, given after meals.

THE death rate from tuberculosis in 1918 continued to decline, the rate being 187·4 as compared with 188·9 in 1917. There has been a decrease in the annual death rate, without exception, since 1911, when the rate was 224·6 per 100,000. The reductions in the rate since 1916 have been much smaller than the preceding years; 1·3 per 100,000 in 1917 and 1·5 per 100,000 in 1918, as compared with 11·7 per 100,000 in 1912. Since 1911 the total reduction in the tuberculosis death rate has been 37·2 per 100,000 or 16·5 per cent. of the 1911 rate. One death in every six from tuberculosis has been either prevented entirely or delayed. The improvement in 1918 as compared with 1917 would have been much greater but for the last three months of the year. In the first nine months, the 1918 rate was seven per 100,000 lower than the 1917 rate; but for the last three months, the rate was 15·8 per 100,000 higher than the 1917 rate. The tuberculosis death rate usually drops considerably in the last quarter of the year; but in 1918, probably because of the influenza epidemic, the decline was slight in amount. Similar conditions are found in the figures for both the State and city of New York. There was some fear that war conditions would result in an increase in the death rate of tuberculosis, but apparently this has not occurred.

MENTAL TESTS IN PRACTICE

BY A. G. MORPHY, B.A., M.D.

Montreal

THE measurement of intelligence is difficult, because it is the attempted estimation either qualitatively or quantitatively of something not easily defined, of which our conceptions are more or less vague. We may try to define it by resolving it into component parts as we conceive them, or by considering it as the outcome of the harmonious working of various mental processes. Among the latter are included sensations, perceptions, records of past experiences, projected combinations of elements of visual and auditory imagery, comparisons of these elements of thought with one another and conclusions made therefrom. All these lie under the directing power of attention, and are influenced to a variable and unknown extent by emotion. Binet's method of trying to define intelligence was to make tentative assumptions as to its nature and try these out with tests. Terman, in his revision of Binet's tests, quotes Binet as having ascribed three characteristics to the thought process or summation of processes called intelligence, namely, the tendency of a thought process to take and maintain a definite direction, the capacity to make adaptations to attain the desired end, and the power of auto-criticism. But Binet was too broad in his ideas to limit himself to any single conception of intelligence, and accordingly designed his tests to turn the spotlight on the unknown quantity from many angles in order to estimate the strength, scope and readiness of various results of the thought processes. These, more or less different from one another, were specified as constructive imagination, time orientation, three or four kinds of memory, apperception, language comprehension, ability to compare concepts and see contradictions, ability to combine fragments of thought into a unitary whole, and ability to comprehend abstract terms and to meet novel situations.

Various tests for the measurement of intelligence have been devised, but the Binet-Simon scale (Stanford Revision) is gener-

ally admitted to be the best. It must be understood that Binet did not claim his scale to be a test either of the entire mentality, or of sanity and insanity, nor a test of the special adaptation of the mind to any field of thought, nor a test of the emotions, nor of moral delinquency; consequently any criticism of the scale must be directed to the scale in relation to that for which it was devised and nothing else.

Let us now look over some of the tests with an eye to their value in estimating different thought mechanisms.

Giving differences from memory—"What is the difference between a fly and a butterfly?" and two other similar questions. The test is one of judgement based on comparison of perceptions, with special regard to appreciation of essential differences. It is one of native intelligence, quite apart from school training.

Repeating digits backwards; a test of ability to manipulate mental imagery.

Ball and field test: A test of practical judgement, not depending so much on abstract reasoning and comprehension of language as other tests. In giving this test, I have been particularly impressed with the poor attempts made by feeble-minded subjects even of adult age to trace out a path sure to find the ball. Their minds either do not seem to grasp the problem, or else fail to find an effective solution of it.

Similarities: "In what way are wood and coal alike," "an apple and a peach," "iron and silver"? This test is one of the hardest for the feeble-minded, and in practice I have found it more difficult than the test for differences; in fact, the most frequent failure when any answer is given, is to give a difference instead of a resemblance. The higher thinking process is at fault, and the test is not influenced by school training.

Detecting absurdities: This test is little influenced by schooling; ideas are compared with one another and the critical faculty is brought into play. A most valuable test for the higher grades of mental deficiency.

Reading test and recalling sight memories, that is, recalling sight ideas from sentences read. The chief value of this test is the opportunity afforded the examiner of judging the subject's power of comprehension of what he is reading during the time of reading and his power of recall of ideas. That the test is largely dependent on schooling is undeniable.

Naming sixty words in three minutes: Terman claims that this tests power and rapidity of association and discloses poverty

of associations in retarded subjects. "Language forms are the shorthand of thought." But there is no doubt that schooling through continual use of words used in different studies plays a large part in success in this test.

Abstract words as, "pity", "envy", "revenge", "charity", "justice". Comprehension of the meaning of such abstract words involves higher thought processes, namely the association and comparison of concepts of qualities common to groups of previous experiences. Terman says, "There is hardly any test in which twelve and fourteen year old intelligence more uniformly excels nine and ten year old intelligence."

Interpretation of fables is a test of generalization, of ability to understand underlying motives. It can easily be imagined how frequently feeble-minded or backward children would fail in this test, especially moral delinquents. A mind of certain standard or above it has the power of generalizing from concrete instances, no matter whether schooled or not. It is a matter of common knowledge how many shrewd people there are in this world who have had very little school and no college training, but whose sagacity is proverbial. In common parlance, they can see through a stone wall or round a corner. Not only have they a vigorous power of generalizing from concrete instances, but they have that somewhat vague (to men at least) quality of mind called intuition which seems to be a rapid summing up and comparison of concepts summoned from unrealized depths with conclusions drawn therefrom. On the other hand, there are many people of higher education—but let us not unveil the converse. "Much learning hath made thee mad." Surely, if any mental test deserves to be ranked as one of the best in estimating general intelligence, the fable test is that one.

In reversing the hands of the clock and in the box test, success depends upon the power of manipulating visual imagery. Using the code requires close attention and steadiness of purpose, what may be described as dynamic form of mental power and may be open to criticism as a test of general intelligence because this particular application of mental energy may easily be improved by practice.

The tests for superior adults need not be considered here. Anyone, however, who may wish to have an half-hour's entertainment, can have it gratis and seated comfortably at home by putting himself through them, the only condition being that he shall examine and judge fairly.

A review of these few tests cited at random from the scale will, I think, show that each test fulfils the purpose for which it was designed; and the same holds with regard to the remainder of the tests, although it is admitted that the tests have not equal value. Binet himself is alleged to have considered certain tests more diagnostic of intelligence than others, namely, the following six:

- Arranging weights.
- Comprehending difficult questions.
- Using three given words in a sentence.
- Defining abstract terms.
- Interpreting pictures.
- Giving rhymes.

It is noticeable that no memory tests are included in this list.

Brigham, in his article on the diagnostic value of the Binet tests, gives results of investigations with regard to the relative value of different tests. He gave the tests to two groups of school children, one of which had progressed only half as far in school as the other, and was presumably composed of less intelligent children. The briefest possible summary of his results may be given as follows:

Test	Percentage passed by Normal	Percentage passed by Retarded
Repeating five digits.....	100	98
Using three words in a sentence.....	79	56
Comprehending difficult questions.....	70	20
Detecting absurdities in statements.....	95	42
Defining abstract terms.....	59	8
Reconstructing dissected sentences.....	100	29

Brigham concludes that the diagnostic value of six tests, namely, comprehending difficult questions, reconstructing dissected sentences, detecting absurdities, defining in terms superior to use, defining abstract terms and solving problems, is high, while on the other hand, certain memory tests, descriptions of pictures, counting stamps, and other similar tests are of low diagnostic value.

Many criticisms of the Binet and other methods of measuring intelligence have been made not only on general grounds, but with particular reference to details.

Porteous, for instance, assuming that there is a marked cor-

relation between character and intelligence and that both should be measured, declares that a child displaying heedlessness, carelessness, inability to allow thought to precede action and of infirm temperament, may be glib tongued, quick-witted, and may appear brilliant as regards educational attainments with good record in school examinations and Binet and Simon tests. So he designed his maze tests in the endeavour to test the qualities of prudence, foresight, and ingenuity.

Higgins says that psychologists are beginning to believe more in performance tests with cubes, cylinders, etc., and that it is surprising how frequently a high grade moron shows mature judgement in dealing with generalities but is at sea in their practical application. He finds the value of the Binet scale greatly enhanced by the Stanford Revision, but questions its value in detecting the high grade moron.

Fernald contends that the Binet test does not register as defective certain persons who present plain evidence of mental defect in their personal history, school history, performance, etc.

In answer to the above opinions, it may be said that as yet no better scale has been devised, and that the results of mental tests should be interpreted in the light of all other data, such as physical health, social condition, language, conduct.

Binet's principle of grading intelligence according to age has been assailed on the ground that it assumes unjustly that intelligence is correlated with age, and that the individual tests correlate with both intelligence and age. In reply it may be said that while it may be granted that intelligence does not grow at precisely the same rate in all children any more than their physical stature does, it is many-sided, growing unequally in different respects to a limited extent and that the elasticity of the Binet scale permits it to cover these inequalities and strike a series of averages. I think it may be safely assumed that the individual tests are correlated with intelligence, and as regards their correlation with age we cannot do better at present than to accept Terman's conclusions based on averages drawn from tests of two thousand children.

Binet's "all-or-none" method of counting has also come in for serious criticism, and superiority for the Yerkes-Bridge point scale in this respect has been claimed. The latter may be described as a series of tests arranged roughly in order of difficulty but not divided into age groups, and to each test a certain value in points is attached, the sum of values being 100. The final score is compared with a "norm" which is a variable quantity, allowance being

made for environment, training, etc. It is difficult to see how reference to age can be avoided, and it would seem that the method of recording partial successes is more accurate than the "all-or-none" method. But it may be said in reply that Binet uses the method of partial scoring by using the same test in different grades of difficulty at different ages, for instance, memory, interpretation of pictures, weight discrimination.

Binet's method of finding the mental age is confessedly arbitrary, but is a practical and easy method, whatever its faults, and must stand until a better is devised. Details need not be given here, as a complete description is given in Terman's book on the Stanford Revision.

Any test may be unjustly criticised, the real fault lying with the examiners. An examiner needs the following qualifications: familiarity with directions for giving tests and with the rules for interpreting responses, ability to adapt procedure in testing to special instances and to adapt himself in attitude to the mental level of children of different ages in order to obtain their best efforts, and a general appreciation of the necessity of adhering strictly to all rules of testing and of careful work.

Finally, it must be borne in mind that any measuring scale is in fact only a convention adopted for practical purposes and should only be used in connection with a complete study of each case, including all obtainable data, medical, educational, and social.

The association of moral delinquency with mental defect can only be mentioned here and not discussed. Pratt, of Toronto University, reporting conclusions drawn from results of clinical studies of nearly 1,500 pupils in the public schools and of several hundred children examined in the Toronto General Hospital, says: "I think the tests are invaluable for the purpose for which they were constructed. If it is understood that their function is limited and they are not pressed into service for which they were never intended, they can be of great practical aid in psychological investigations. The tests are almost unerring in diagnosing the class of the definitely feeble-minded and distinguishing them from normal children. The fact that they are so little dependent upon technical school training and are designed to appeal to the ordinary common sense and practical intelligence of a child, accounts for their utility. They furnish a definite percentage (I.Q.) which can be used when, for example, the Judge of the Juvenile Court asks for exact information about the delinquent's mentality. Where the tests are lacking is on the emotional and moral side. They need to be supple-

mented by social data derived from the home, the playground, and the family history. They are not tests of insanity or criminality as such, but are of great value when in addition to the above abnormalities mental defect is disclosed. I think that any investigation into the correlation between mental defect and moral delinquency must be based upon a thorough and scientific use of such tests as the revised and developed form of Binet and Simon."

BIBLIOGRAPHY

- BRIGHAM.—"Psychological Monographs," Vol. xxiv, 1917.
PORTEUS.—*Jour. Ed. Psychology*, Jan., 1918.
FERNALD.—Quoted by Brigham.
YERKES-BRIDGES.—"A Point Scale for Measuring Mental Ability."
HIGGINS.—*J. A. M. A.*, Jan. 12th, 1918.
YERMAN.—"The Measurement of Intelligence."
-

THE treatment known as heliotherapy in tuberculosis has proved a marked success, not only in that of the bones and joints, but also in the pulmonary form. The treatment is simply exposure to the rays of the sun in the open air. Dr. A. Rollier's establishment at Leysin, near St. Moritz, Switzerland, has been famous for several years. There he has treated upward of one thousand five hundred patients with phenomenal success. This is in mountains high above the sea level, but the same treatment is equally successful on the sea shore, as is proven by its results at Bereck-Plage, Hyeres and Cannes. Sunlight is the essential part of the treatment, and the best place is where most sunlight is to be found. Dr. Albert Rollin, in his work on tuberculosis, speaks of the intensity of the luminosity of sea air and the power of radiation on the beach.

Sunlight has been found also to be one of the best cures for torpid wounds, gangrene, frost bite and other similar lesions. It is not the heat in the rays that is beneficial, but the blue and violet rays of the light, which, with invisible ultra violet rays, constitute chemical rays, which are strongly bactericidal. Sunlight is not merely bactericidal; it is a powerful stimulant to every function of animal life.

WAR SURGERY

PERFORATING GUNSHOT WOUND OF THE FACE
WITH EXTENSIVE DESTRUCTION OF THE
SUPERIOR MAXILLÆ

BY J. N. ROY, M.D.

*Physician to the Hôtel-Dieu, Montreal; Laureate of the
Academy of Medicine of France*

In publishing the following observation, I desire, in the first place, to give testimony of the very appreciable services which the dentists rendered to the surgeons throughout the whole period of the recent war, in relation to those operations necessitated by wounds of the jaws. As I have already shown in two previous papers*, the experience which has been gained, during the last five years, has proved that in restoring any injury located on the lower part of the face, the co-operation of our confrères engaged in the profession of dentistry, was almost indispensable. Left to his own resources, the surgeon would often find it impossible to give to the patient the most judicious treatment. If he attempted to do everything alone, the æsthetic or functional results, in most cases, might leave much to be desired. The case of the wounded soldier, who is the subject of this paper, is a convincing illustration of this fact, as I will proceed to demonstrate now.

Case report. Captain E. C.†, twenty-six years of age, belonging to an infantry regiment, was brought under my care, at the Canadian Hospital at St. Cloud, on April 26th, 1916. He was suffering from a large wound of the face, having, on April, 16th, at Verdun, been struck by a bullet which had apparently been reversed in its cartridge casing, and was fired from a distance of about twenty metres. The manner in which the officer's face was shattered, and

*J. N. Roy.—“Quelques cas de labioplastie.” *L'Union Médicale du Canada*, Avril, 1919.

J. N. Roy.—“Le traitement chirurgical des fractures du maxillaire inférieur.” *L'Union Médicale du Canada*, Juillet, 1919.

†This officer, while under treatment, was shown to the Inter-Allied Dentists Congress, held at Paris in November, 1916.

ASSOCIATION JOURNAL



FIG. 1

THE CANADIAN MEDICAL

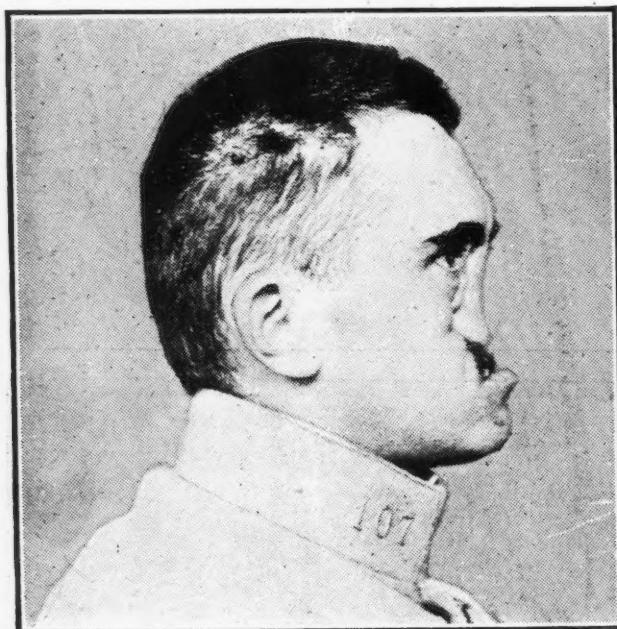


FIG. 2

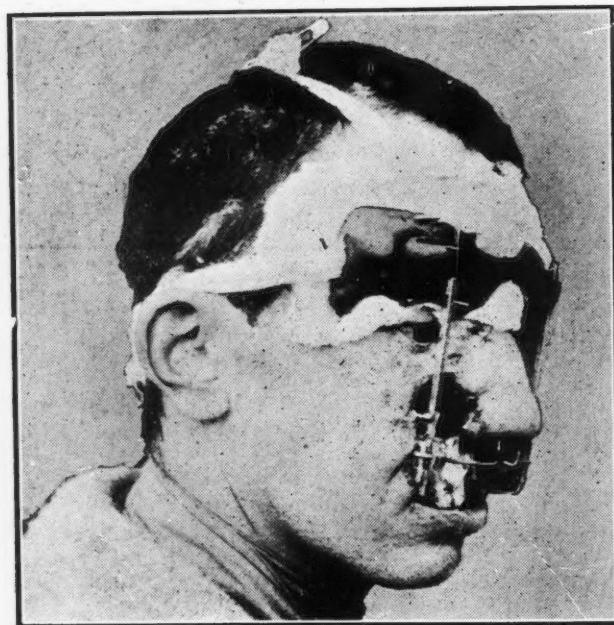


FIG. 4

ASSOCIATION JOURNAL

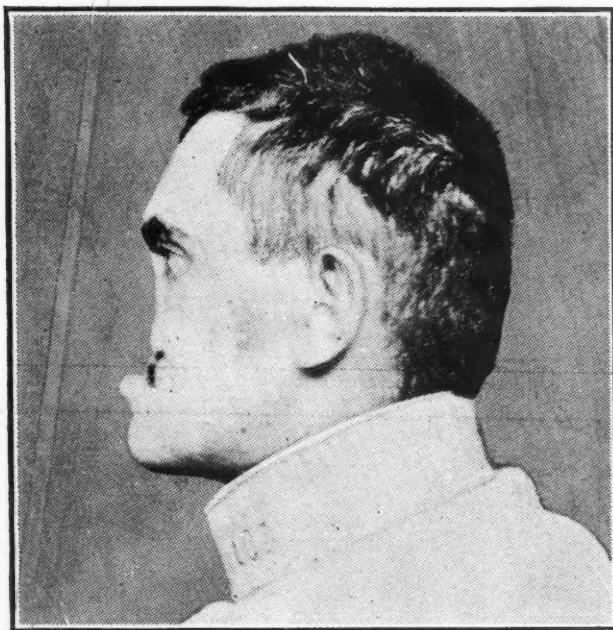


FIG. 3

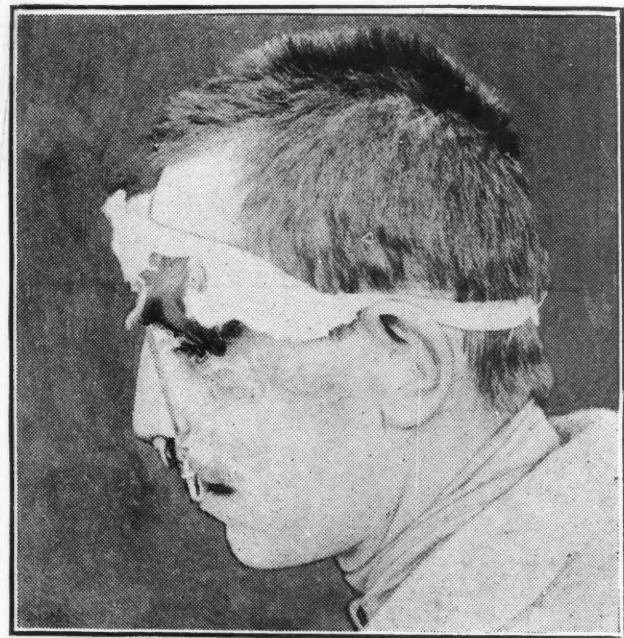


FIG. 5

THE CANADIAN MEDICAL

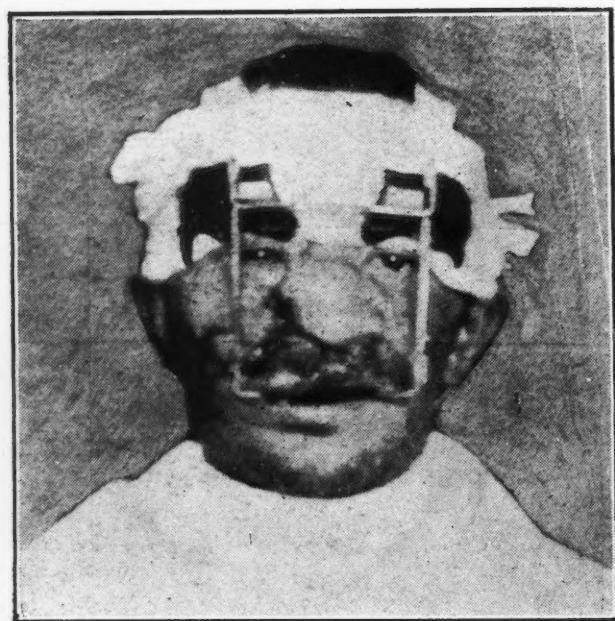


FIG. 6

the fact that bullets reversed in their cartridge casings were found in trenches subsequently captured from the enemy, led me to believe this conjecture was most probably a true one. The projectile entered the man's left cheek, inflicting a vertical wound, half-open, about five centimetres long, and having the malar bone at the upper extremity. After having almost wholly destroyed the superior maxilla, the bullet passed out on the right side, at junction of nose and cheek, causing considerable disfigurement. The maxillary sinuses, the turbinated bones, and the nasal septum, were demolished, leaving nothing but a great single cavity. The bones of the nose were fractured, and this organ, having no longer any support, had already begun to sink in, being drawn towards the right side. Two-thirds of the left side of the roof of the palate had been destroyed. The three molars, attached to the only remaining portion of this maxilla, were still wedged on the right side, and this bone, broken away from its surroundings, was dragging on the tongue. The upper lip, which was split near the middle, had no nasal contact on the right, but hung on the lower lip, at the point where the two lips join. Up above, the region of the lacrymal sac was likewise injured, and the patient complained of diplopia. Apart from this trouble the vision of each eye was excellent, and the floor of the right orbit was intact.

The condition of the lower maxilla was normal.

The ears, fortunately, did not suffer from any of the effects produced by the trauma.

The wound suppurated freely, and the patient, very weakened, had a little temperature.

I proceeded to sterilize this wound, as quickly as possible, by removing the loose splinters, by irrigations and buccal pulverizations frequently repeated, and with dressings renewed twice a day. Tonics and a generous diet aided the local treatment so well that I decided to proceed to surgical treatment, at the beginning of May. (See photograph No. 1, taken on May 8th.)

The first operation took place on May 10th. After administering anaesthetics and completing the preparations ordinary to all operations, I scraped as thoroughly as possible, with the curette, the wound on the left cheek. I then sutured the skin after having carefully loosened and freshened the edges. The drainage being good through the mouth, union by first intention resulted. In order to gather up and hold together the fragment of the maxilla, which was hanging on the tongue together with the three teeth, I had,

before commencing the operation, ordered a metallic crown which fitted to the head, and rested solidly on the superciliary ridges.

After all the splinters of bone had been scraped away and removed from the cavity, between the mouth and the right side of the face, a Reverdin needle, passed through the wound, at the gingivolabial junction, was armed with a brass wire, the inner of which encircled the fragment of the maxilla. In order to avoid cutting the surrounding tissues, I passed this wire, after gently twisting it, into an india-rubber tube. I then drew it up, and after putting what remained of the superior maxilla into its position, I attached the brass wire to a hook which formed part of the frontal metallic crown. The three teeth coaptated well with the corresponding molars of the inferior maxilla, and as a result, and by means of appropriate dressings, I was able to control the retracting cicatrice, and obtain perfect and definite dental contact. Then I sutured the upper lip, the ala of the nose and the region of the lacrymal sac. There still remained a large opening at the side of the nose through where I could make aseptic irrigations, dressings, and watch the healing of the tissues.

Post-operative recovery was quite normal, and on May 22nd, I removed the brass wire, the fragment of the superior right maxilla having by that time become adherent to the surrounding tissues. However, that fragment, consolidated by portions of osseous lamellæ, presents such an elasticity that probably it will be impossible, in the future, to apply a prosthetic apparatus thereto.

The wound on the right gradually contracted, and the suppuration diminished from day to day.

The patient having previously suffered from influenza, he developed an otitis on the left side on June 19th. This otitis, very acute, necessitated a paracentesis, and was complicated by mastoiditis. By the application of ice, and proper dressings, the officer's condition improved, and there was a complete cure by July 28th.

Gradually the nose, no longer having any supports, sank in and deviated to the right, being drawn into the interior by the cicatricial tissue. (See photographs 2 and 3 taken on September 20th.)

Diplopia had now entirely disappeared.

Suppuration ceased, healing of the wound followed its ordinary course, and in September, the fragment of the superior maxilla had consolidated in the manner previously described. The opening at the side of the nose had now diminished to a narrow fissure.

In order to place the nose in its normal position, and maintain it there after the operation, I asked Dr. Geo. Villain, professor at the Dental School of Paris, who was attached to my department in the quality of chief of the technical service, to make a prosthetic apparatus which would be capable of taking the place of the superior maxillæ, and the nasal septum, that is to say, an anatomical support for the nose. Thanks to his great skill and ingenuity, Dr. Villain succeeded in constructing an ideal instrument of which he has been good enough to furnish me the following description:

"Seeing on the one hand, the almost total loss of the superior maxillæ, and on the other hand, the slight resistance of the fragment which remained consolidated on osseous lamellæ, it was not possible to find, on these maxillæ, any point of solid support for the construction of a skeleton apparatus. Neither would the inferior maxilla serve as a point of support, on account of the great mobility of that bone. It was therefore necessary to choose a more stable place to obtain the desired purpose. The direction, inner and outward, of the cicatrical forces, which were very powerful, would not permit the utilization of an apparatus which would take the skull as the sole point of support against these forces.

"Inspired by the method extolled by Kazanjian, I constructed a frontal plate in vulcanite, moulded on the forehead, and grasping, as firmly as possible, on the superciliary ridges. A vulcanite splint, attached to the lower teeth, was connected to the frontal plate with sliding lateral tubes. Thus given absolute rigidity, the apparatus was a marvellous anchorage, and one which would support considerable force. The inferior maxilla, having a slight mobility, could move up and down within a radius of several millimetres in the splint. Moreover, to guard the patient against fatigue, the sliding lateral tubes allowed one at will to increase or decrease the fronto-maxillary distance; two small screws fixed the apparatus at the height desired. To push over the nose, and maintain it in its proper position, after liberating the cicatrices, I utilized two metal rods which were each bent at a right angle from its extremity. One extremity was folded in the shape of a U, and thrust into a small vertical tube which was soldered to the sliding lateral tube, and the other extremity, covered with gutta-percha, was destined to penetrate the nostril, in order to keep the nose in its normal position.

"Thus disposed of, the rods were capable of being drawn by sliding them vertically up and down. This gave the surgeon proper facility for the antiseptic treatment of the mouth and nose. In addition, it gave play to a certain elasticity which prevented erosions of the mucous membranes of the nose.

"On the lower splint, two horizontal tubes were provided to receive a labial skeleton of tin, to be used when the time would arrive to proceed to the labioplasty. Thanks to a special provision, this plate will serve not only to support the lip, but also to dilate it."

The apparatus completed, I proceeded to the second operation, which took place on September 23rd.

Chloroform having been administered to the patient, I made an incision through the whole cicatricial tissue, from the root of the nose to the lip inclusively. The nose having been completely separated, as far as the point between the eyebrows, it was easily drawn out. Although the bones were fractured, they still adhered to the nasal pyramid, and were carefully preserved for the later purpose of serving as a solid point of prosthetic support. The apparatus was then placed in the mouth and on the forehead, and two metal rods, with a covering of gutta-percha at their extremity, were introduced in the nasal fossæ, maintaining the nose in its normal position. I made two sutures at the upper part of the wound. Definite restoration of the lip was naturally left for a third operation. (See photographs 4 and 5, taken on September 25th.)

The results of the intervention were excellent. Irrigations and antiseptic dressings were made daily, and particular attention was paid to nasal nutrition. From time to time, the nose changed color, turned from white to red, or became swollen. I corrected this trouble, which was one of circulation, by modifying the prosthetic rods which had their point of support in the nasal fossæ, and more or less compressed the surrounding tissues.

Towards the end of October, as nutrition of the nose seemed to be satisfactory, I decided to repair the upper lip. As, however, the metal rods, placed in the nostril were in my way, I asked for such modification of the first apparatus as the exigencies of the operation necessitated. My excellent friend, Mr. Bouillant, chief of laboratories of Military Dispensary No. 45, took charge of this delicate work, and replaced the skeleton rods by a nasal supporter introduced at the part of the roof of the palate which had been destroyed. This supporter, destined to assure a sufficient but not compressive support, was capable of expanding the tissues, and so prevent cicatricial retraction. It was mounted on three metal rods, penetrating the tubes included in the depth of the lower splint, and it could be easily dismounted. The nasal part was formed of a soft elastic pad hooked to the apparatus, which rendered its replacement easy. The pad was thrown forward by means of a nut

manceuvring on the central rod, and came into contact with the lower part of the bone of the nose, which was now in excellent position.

The third operation took place on October 31st.

Chloroform was again administered and, aided by my excellent comrade and friend, Major Chs. Saint-Pierre, the patient was carefully prepared with a view to autoplasty. I detached entirely the bundle of flesh which formed part of the upper lip, and proceeded to a minute ablation of the cicatricial tissue. The lip, which had been torn to within two centimetres of the commissure, was liberated, in following the line of the traumatism. The left part was then freshened up, and as it was somewhat retracted, I made a horizontal cutaneous incision, and a slight dissection in a manner to augment its depth. The two extremities of the labial mucous membrane were sutured with silk, after having been given a little outward turning. There still remained to be filled up more than one half of the upper lip. In order to accomplish this, I cut a flap from the cheek and neck, about eight centimetres long and three centimetres wide, in continuing the first incision near the commissure. This flap partially detached, had then its pedicle under the right malar bone. It was carefully coapted with the lip from the left side and at the labial mucous membrane, which had been previously sutured, and put into place. The prosthetic apparatus furnished an excellent point of support, and prevented retraction. After having loosened the skin on the chin, neck and cheek, it was easy to completely close up the wound caused by taking off the flap. A light compressed dressing terminated this operation of labioplasty.

The outcome of the operation was again satisfactory. On account of abundant buccal secretions of a nature likely to cause complications, I ordered that irrigations and dressings should be made every day. The flap was well nourished, it adhered to the surrounding tissues and maintained its physiological color. The labial mucous membrane, on the right side, encroached for the moment on the skin to which it was sutured. Later, when the cicatricial work will have produced its effect, it will be an easy matter, if the thing persists, to correct this asymmetry by a simple intervention.

The nose presented no inflammatory reaction, and kept its normal appearance as regards its prominence.

The wound on the cheek and neck healed by first intention, and

left a cicatrice that can hardly be seen. (See photograph 6, taken two days after the operation.)

Owing to my departure from France for England, I must unfortunately bring this observation, which is personal to myself, to a close, with this last operation. It remained for me, in the future, to cut the pedicle and fill up the wound, at the junction of the nose and cheek, by means of a flap taken from the right side of the forehead. I would not have been justified in performing that operation at the time of the third intervention, in view of the presence of the septic secretions, and the necessity to watch the vitality of the flap, vitality being always problematic in this kind of surgery.

The patient was removed to another hospital, and there he underwent, with complete success, the remainder of his operative treatment. A definite prosthetic apparatus, taking its point of support on the lower dental arches, was made to replace the superior maxillæ which were destroyed. Furthermore, that prosthetic apparatus provides a stem for the nose which it maintains in an excellent position without the aid of any external facial support.

The patient has grown a moustache, and the æsthetic result achieved is as perfect as is reasonable to hope for. Captain C. is highly satisfied with the results obtained, and at the end of 1917, he was able to rejoin the army, and take up duties on the headquarters staff of an infantry brigade. Judging by his present appearance, nobody would be able to realize the vast disfigurement of the face presented by this officer after his glorious wound.

RETIRING PRESIDENT'S ADDRESS

BY R. FERGUSON, M.A., M.D.

THE year during which I have had the honour to preside over this council has been a strenuous year, and some of the questions which engaged our attention unfortunately still remain unsettled. Chief among these questions are the many issues raised by the report of the Royal Commission. Although that report has been in the hands of the government for over two years, no legislation based thereon has yet been brought before the legislature. Pending the submission of the new Medical Bill, the executive committee, appeared before the government on several occasions since our last session and presented our views in the interests of medical education, and the protection of the public against charlatanism.

The council having thus far done its duty in the premises, it is a question whether we should further prosecute these subjects before the government or leave the responsibility of the issues with our legislators, after the example of the Ohio State Council. However, at the close of the recent session of the legislature, the timely interference of your representatives averted the passing of such legislation as would have rendered the authority of the medical council abortive and nullified its very existence. This Bill, we were assured, was an eleventh hour measure hurriedly compiled under a misapprehension of the views and attitude of the medical profession. In consequence of our timely protest, it was promptly withdrawn. The incident was the occasion of an assurance that whatever medical legislation might hereafter be proposed, the representations of the medical profession would receive first consideration. The council was moreover asked to formulate a series of recommendations at this, its next meeting, for the guidance of the government in framing a medical bill at its next session. Under these circumstances I would recommend that a special committee be appointed forthwith, for that purpose, or that the matter be referred to the legislative committee.

Delivered before the Ontario Medical Council, Toronto, June 24th, 1919.

MEDICAL EDUCATION

It does not appear to me that the council has been as progressive as it might have been in respect to medical education. Time was when the universities were put upon their mettle to make their curricula measure up to the requirements of the council. Now, however, the universities set the pace, whether too rapid I do not say, and the council is content to follow that lead. The curriculum of the College of Physicians and Surgeons is antiquated. For example, the examination requirements of the council state that the work on the various subjects shall consist of from one to three courses, covering from fifteen to thirty teaching weeks. These specifications mean nothing unless the number of hours allotted to each subject is specified. I endeavoured more than once in committee to have this defect remedied, but failed from lack of support.

The council has been lacking in initiative in medical education. For instance, two of the universities of the province have adopted a six-year course of study, and the third is, I believe, considering its adoption. This movement was never even discussed by this body, nor was any influence whatever brought to bear upon the subject. If the council had raised the standard of matriculation, as it should have done, there would have been no occasion for a sixth year. Senior matriculation with the science option, would have covered the subjects of chemistry, physics and biology, which are at present loaded on the medical curriculum. With the elimination of these subjects, the student would bring greater maturity to bear upon his work, and the early part of his course would not be occupied with subjects which are properly pre-medical. The council should have taken part in the settlement of this question. If it relegated the pre-medical subjects to the arts and collegiates where they belong, the medical colleges would have been satisfied with a five-year course, and they would have been relieved of the necessity of providing an unduly long course of medical study, while the energies of the students would have been concentrated upon work essentially medical and practical.

The executive has had a considerable number of applications from "overseas" students for matriculation standing and special licenses. These applications have been dealt with in a spirit of generosity in so far as they came within the "war-time" concessions recognized by the council. With the advent of peace conditions,

the council will doubtless again adhere strictly to normal regulations, and aim at the maintenance of a high standard of medical education.

THE RELATION OF THE COUNCIL AND THE UNIVERSITIES

An effort has been made from time to time by the provincial university to have the examination of that body accepted by the College of Physicians and Surgeons as a licensing examination. In my judgment the council should never give up the control of the curriculum and its own independent examinations. As a matter of fact, a reasonable concession has already been made to the universities in the acceptance by the council of all the university examinations except those in the three major and practical subjects of medicine, surgery, and obstetrics, and diseases of women. The council is the one agency which through its curriculum can standardize the work of the universities, and conduct a licensing examination wholly disinterested, and possessing the essential of independence. This, in effect, was the conclusion reached by the Royal Commissioner in his investigation. The present system is working very satisfactorily, and any interference therewith would inevitably lead to disintegration and discord.

RECIPROCAL RELATIONS WITH CANDIDATES OUTSIDE THE DOMINION

At the 1916 meeting of the council, a memorial was received from the University of Toronto regarding the discrimination involved in exacting one year's attendance in case of candidates outside the Dominion, otherwise eligible for our licentiate examinations. This memorial arose from a protest raised against this restriction by the education committee of the American Medical Association. After due consideration the education committee of this council recommended the elimination of this provision, and the recommendation was adopted without dissent by the council. The profession generally congratulated us on the removal of an obnoxious barrier from the regulations, and the officials of the American Medical Association expressed appreciation of our action. Nothing further was heard of the matter until a year ago, when the education committee quietly restored the provision, and it went through the council apparently without consideration or discussion. I realize that I am making a belated protest about this matter, but I am convinced that the restoration of this provision was a

very reactionary step, and out of keeping with the spirit of international fellowship that should obtain in these days among allied peoples, in matters ethical as well as political. It would do the council credit now to revert once more to its former attitude upon this subject and to remove this insignia of narrowness and provincialism from our regulations.

The question of reciprocal relations with "accredited colleges" in the United States has been dealt with in rather a niggardly spirit. Not satisfied with the acceptance of "Class A" medical colleges, our regulation sets up the limitation that only such colleges shall be acceptable the standards of which are equivalent to the standards of this council. We have no adequate means of comparing standards, and the classification of American Medical Colleges by the Council of Education of the American Medical Association is the only sane standard to adopt. Our regulation savours of pettifoggery.

THE WORKMEN'S COMPENSATION ACT

Some of the regulations of the board, rather than the act itself, is a source of considerable dissatisfaction to the medical profession. The schedule of fees to which this council a year ago gave a qualified approval as being "upon the whole satisfactory" is quoted in Form 92 of the board as "approved by the College of Physicians and Surgeons of Ontario". The resolution of the council states that the schedule is "upon the whole" satisfactory, implying that in some respects it is not satisfactory without qualification. The schedule, as amended a couple of years ago, is doubtless an improvement upon the original schedule, but it still contains some unwarranted restrictions. For example, under "Anaesthesia and Assistants", Form 92, the regulations of the board provide that at operations a doctor may administer anaesthesia *only* when a house surgeon is not available; and that an assistant can be employed *only* when considered necessary by the board. Every doctor knows that oftentimes the duties of the anæsthetist are more critical than that of the operator; and if under the regulations the operator is obliged to utilize, it may be an inexperienced or an unlicensed house surgeon, then the board and not the operator should assume the risks attending the administration of such anæsthetic. With reference to the employment of an assistant only when considered necessary by the board, such a regulation is absurd, as in the great majority of cases it is impracticable to consult the board prior to

an operation. These restrictions are entirely unreasonable, and should apply only in cases where such privileges are abused.

The government at the last session of the legislature made a very sane amendment to the act, viz.: the abolishing of the one month's limitation for the compensation of medical services. This provision was so palpably unjust that the wonder is how it ever became incorporated in the act. Your president took up this matter with the government by personal correspondence in the absence of any opportunity of getting a committee-conference on the subject. The Board of Compensation itself, and many of the employers, went on record as opposed to the limitation imposed by this provision. There is one feature of the recent amendments to the act, that is decidedly unfair to the physician, viz.: that while an appeal from the decision of the board is permitted in disputed accounts, that privilege is nullified by the rider that "no costs" are allowed the appellant even when the appeal is sustained.

THE ONTARIO TEMPERANCE ACT

The abuse of the privileges of the Ontario Temperance Act has been a source of chagrin and discredit to the profession. This subject was the occasion of a conference between the government and the representatives of the council. Neither the civil courts nor the council has been able thus far to cope adequately with this abuse. Some improvement is anticipated under the recent amendments to the act. Several cases I understand will come up before this session of the council in which the suspension or cancelling of the licenses of the offenders will be recommended by the discipline committee. The adoption of the recommendation will doubtless have a salutary effect. For the year ending April 30th, 1919, there were seventy-three prosecutions against forty-six doctors under the Ontario Temperance Act, resulting in fifty-eight convictions against forty doctors, the fines ranging from \$10 to \$1,200. Six convictions were obtained against one man, four convictions against three others, three convictions against another, and two convictions against two others. In view of this damaging record before the courts, the discipline committee would appear to be charged with serious disciplinary duties. It will never do for this council to confine its zeal to the prosecution of charlatanism outside the ranks of the profession, while men within the profession are permitted to besmirch its reputation by wholesale trafficking in liquor prescriptions.

In this respect the reputation of the profession is largely in the keeping of the disciplinary committee.

Notwithstanding its alleged shortcomings, however, some of which I have not been slow to criticize, and in spite of the hostility of the critics, some sincere no doubt, others merely captious, yet the Ontario Medical Council has a long record of usefulness to its credit; and after an existence of over half a century, it stands to-day as our most potent agency in maintaining and regulating the standard of medical education in this province, and in safeguarding the public against fads and charlatanism in the field of medicine.

Dr. George D. Porter, of Toronto, presented the secretary's report for the year of the Canadian Association for the Prevention of Tuberculosis at its nineteenth annual convention, held on October 9th. Dr. Porter referred to a number of new sanitoriums and other institutions for the treatment of tuberculosis established during the year, and among them the new \$250,000 Laval Hospital at St. Foye, Quebec; the Rotary Institute for diseases of the chest, opened in Vancouver; a large provincial institution in Alberta; a new hospital for curable diseases in Montreal; and new babies' wards at the I.O.D.E. Preventories in Toronto and Saskatchewan. Important measures have been taken by the Department of Agriculture to guard against the contamination of milk. Great advances have been made by the Department of Soldiers' Civil Re-Establishment in providing, in conjunction with the University of Toronto, a research department for the carrying out of serological tests on both military and civilian cases. Educational posters and pamphlets have been distributed by the Association, which has actively co-operated with the provincial departments of health and other organizations in this important work.

MENTAL EXCITEMENT IN A PSYCHOPATHIC HOSPITAL—ITS PREVENTION AND CARE

By NURSING SISTER ELIZABETH MILLS, C.A.M.C.

Cobourg Military Hospital

THE diminution of noise and mental excitement in a psychopathic hospital is a very important and practical problem which goes to the root of many difficulties connected with the management of the insane. It is universally accepted that in any institution of this kind the amount of disturbance should be reduced to a minimum, and the extent to which this has been accomplished may be taken as an index of the good management of the hospital. The difference between the state of the "Bedlams" of the past and the mental hospitals of the present day, is largely the result of better methods of securing that quietness which is indispensable for the successful treatment of patients. Since consideration of prevention is inseparable from that of causation, our starting point is clearly indicated; we shall refer to several specific factors which are most commonly present to break that peace which should be characteristic of any institution devoted to the treatment of mental disease.

One of the chief causes of disturbance is mental excitement of the patients. This excitement may be either of two kinds. There is, on the one hand, the mental excitement due directly to disease, as of the person suffering from the delirium of an acute toxic psychosis, which is an essential excitement caused by some abnormal stimulus arising within the body; in many cases, no external sense impressions reach the patient's consciousness, and this is therefore amenable only to treatment which has an effect on the disease itself. Obviously the control of such excitement must be left to the medical officers, the nurse's only duty being to report its occurrence immediately and execute the physician's orders. Such cases are comparatively rare; in fact, in the Cobourg Military Hospital, not more than six cases coming within this category can be found in our wards at any one time.

There is, on the other hand, the mental excitement which is

the reaction to some irritation in the environment acting on patients sensitized to irritation. This may be called non-essential excitement; it is temporary and paroxysmal in character and naturally subsides with the removal of the irritation. It is this preventable excitement which causes by far the greatest proportion of disturbances in our wards and its prevention and control devolve chiefly not on the medical officers, but on the nursing staff. The best means of influencing this kind of excitement lies in the discovery and removal of the source of the irritation. A well directed attempt to grapple with this problem will test to the utmost the originality, resourcefulness and powers of observation of the mental nurse. However, the reward is great and the benefits follow so speedily that the relationship between cause and effect is obvious to all.

The sources of avoidable irritation to patients are innumerable. Demented individuals, like infants, when restless and troublesome, are usually suffering from some bodily discomfort. We have known such patients to become quiet after the relief of a distended bladder or rectum, a gastric lavage, the extraction of decayed teeth, the removal of an ingrowing toe-nail, or surgical attention to a suppurating ear. Night nurses have maintained quietness by giving a drink of warm milk, a soda biscuit, or a little tobacco to their charges. Numerous other ways of sparing the feelings of excitable patients and sheltering them from a multiplicity of irritating stimuli will occur to any thoughtful nurse who studies the habits and environment of her patients. It is obvious that such discriminating enquiries cannot be carried out in an atmosphere of turmoil and confusion, wherein abnormal physical conditions are almost certain to be overlooked and misunderstood; the nurse responsible for the treatment of mental excitement under the latter conditions is merely groping in the dark.

Every noisily excited patient should at once be placed where he cannot disturb his fellow patients; therefore, provision has been made in each ward for a partially isolated room to which the disturbed sufferer can come accompanied by one or more nurses to administer suitable treatment until calmness is restored and the danger of inflaming the others has passed. At the same time, measures directed towards the improvement of the general health of the patient and which operate indirectly to reduce the severity of mental symptoms must be undertaken; the more serious cases are prescribed treatment in the continuous bath, or some other form of hydrotherapy; the dietary must be generous—the ration issued in the main dining room having a food value of 4,200 calories

with over 160 gms. of protein; special and extra diets are provided where indicated and whenever possible occupational treatments and amusements are given in the open air. Such measures, in the vast majority of cases, produce the necessary calmative effect, thus making it unnecessary to employ chemical hypnotics and sedatives with their well-known deleterious effects.

The Cobourg Military Hospital, being organized on the so-called "non-restraint" system, seclusion and mechanical restraint are prohibited by the standing orders of the Officer Commanding, and all methods of a harsh, intimidating or repressive nature are vigorously proscribed. Coercive measures, we have learned, lay the foundation for future irritability by engendering a spirit of antagonism towards the hospital and resistance to its therapeutic agencies. Undesirable accidents such as destructive episodes, violent outbreaks, suicides and escapes are prevented by a close but unobtrusive supervision of each individual patient; doors to all dormitories occupied by patients are therefore kept open except when a nurse or orderly is in attendance. Every precaution is taken to foresee and avoid situations which might lead to violent conduct.

There is no doubt that women nurses, though they cannot command effectual physical means of controlling them, manage mental patients with less irritation and fewer outbreaks than occur when male attendants are in charge. Nursing sisters in this hospital are almost ubiquitous. They are found not only on all wards both by day and night, but if the visitor passes to the dining room, the recreation hall, occupational therapy groups on the lawns; in fact, to any portion of the premises where there are patients, he invariably sees one or more nursing sisters directing the operations and watchful for ominous symptoms. Those who feel that the insane will take advantage of the milder methods of treatment, little appreciate the power a well poised properly taught expert nurse can exercise by calm persuasion and mental suggestion. Ward disorders can be more easily prevented by the judicious words of a quiet, self-possessed gentle-toned woman nurse than by the threats and stormy commands of an angry orderly.

The following brief case summary serves to illustrate the difference between the modern treatment of the mental case and the older methods:

Private C. was admitted to this hospital from a convoy. His documents showed that he had made an attack on an orderly in an asylum, and he was described as homicidal; information was given

that on account of his violent and destructive propensities, it had been necessary to confine him in a padded room and to keep him restrained by mechanical means for a considerable period. He came to us in a straight jacket with severe bruises over his entire body and the tips of his fingers deeply excoriated from his efforts to free himself. His facial expression was one of extreme terror, and when the orderlies approached to transfer him from the stretcher to the bed, he gave a frightened shriek. His escort warned the nurse that if the jacket were removed the patient would surely kill somebody; nevertheless, the matron without hesitation entered his room alone, placed a cigarette between his lips, lighted it for him and at once proceeded with her scissors to cut the offensive confining apparatus from his body. The sight of the nurse's uniform seemed to bring both surprise and reassurance, for he asked, "Do you have nurses to take care of us here?" The words were at once an indictment of the shackling and terrorizing methods of his former treatment, and a touching testimony of the confidence reposed in the nursing sisters by the wounded soldier—even the soldier "wounded in mind." This patient did not speak an irrational word during his treatment here; within a few days he was given parole privileges, and in less than three months was discharged to his home fully recovered.

Of all individuals connected with the hospital, none can do more to disturb its peace than the nurses and orderlies; therefore, it is of the utmost importance that only capable conscientious individuals should be chosen to fill the ranks of the staff. In dealing with the psychoses, good nursing is much more important, as a rule, than medical or surgical procedures, and therefore the general intelligence and natural disposition of the personnel, supplemented by their conception of duty and knowledge of nursing, determine in large measure the curative atmosphere by which the patients are surrounded during their hospital residence. Those who show a lack of suitable temperament and of sound, sensible, dependable qualities, and who persist in disturbing the wards by boisterous behaviour and frivolous conduct, show a glaring want of consideration for their patients and must undergo careful training to eradicate these defects. Noisiness amongst psychotic subjects is as infectious as measles; therefore, the staff must learn to handle keys, dishes, doors, and furniture gently and quietly. They are requested to wear rubber heels and cultivate a noiseless tread; they must understand the necessity of promptly answering the telephone and waiter. Shouting commands to patients or fellow workers is regarded as

inexcusable. Nurses must acquire the habit of speakly lowly and distinctly. If a nursing sister is negligent in these matters, she need not wonder if her orderlies regard them lightly.

The corridors in the hospital have been covered with battleship linoleum and rubber treads, to abolish the noisiness caused by the irritating tramp of many feet on hardwood floors; the blowing of whistles and ringing of bells has been restricted to emergency alarms. It has been found that even a disorderly appearance of the wards is suggestive; hence the importance of keeping the hospital at all times scrupulously neat and clean from roof to cellar; and of repairing immediately accidental damage to walls, paint, and equipment; no detail is too small to deserve attention in our campaign to reduce to a minimum the number of irritating stimuli from every source.

It must not be forgotten that in the less acute cases occupation promotes quietude. We have all noticed how much more excitable patients become when for any reason the usual amount of occupation cannot be arranged. Fortunately for the patients here, provision has been made for carefully graded bodily and mental exercise for every suitable case; basketry, bead work, typewriting, carpentry, shoemaking, painting, athletic sports, musical drill, educational classes, dancing, and musical instructions have all been so organized that a definite programme may be mapped out for each patient to fill the entire day from the time of rising till bedtime. Even in the case of those whose bodies must remain inactive, employment and diversion are provided at the bedside by the ward aides detailed to the acute dormitories. Much is lacking in the endeavours of any nurse if listless and unemployed patients are a customary sight in her ward.

Owing to the excellence of the therapeutic facilities in this hospital, one misses many unseemly spectacles which are all too common in institutions for the insane less generously staffed and equipped. There is an absence of "herding", and the drooling, statuesque, unkempt appearance of advanced dementia. Visiting psychiatrists have frequently commented on the fact that the special attention and supervision provided has given our cases the appearance of an exceptionally mild type. The morbid process is the same, however, and there is no doubt that under less favourable conditions, mental disintegration would be as rapid and complete in the case of our patients as in those seen on the chronic wards of any asylum where patients are given only custodial care.

Though cognizant of our inability to attain perfection and to

secure the entire abolition of maniacal excitement in our hospital, yet, as the staff become more proficient in the application of the newer methods we are approaching closer and closer to that ideal. Experience has convinced me that by unceasing vigilance in checking troublesome and disorderly tendencies before they have formed into habits, and by perseverance in an attitude of kindness towards the patient—not a mere sentimental kindness—but a constructive kindness based on an understanding of the deeper springs of the aberrant behaviour of the mentally deranged, the atmosphere of any institution for the mentally afflicted can, and should, be made as quiet and peaceful as that of any well-conducted general hospital.

THE Dominion Council of Health has devoted a great deal of attention to the control of venereal diseases. A complete unanimity of opinion has been expressed by the representatives of all the provinces as to the proper measures to be adopted, and assurances have been given by them of most active co-operation with the federal department. The council has decided that out of the appropriation set apart by the Federal Government for division among the provinces for the combatting of the disease, the sum of \$10,000 shall be given direct to the national council for the combatting of venereal diseases in their nation-wide campaign of information and propaganda and measures of treatment; and a further sum of \$10,000 shall be expended by the federal department of health along the same lines. The balance of the grant, \$180,000, will be proportionately assigned to the provinces, and their representatives, who assure the department of health that equivalent amounts of provincial funds will be set apart for the purpose.

Case Report

BACILLUS COLI INFECTION OF THE KIDNEY

By PHILIP WEATHERBE, M.B., CH.B., F.A.C.S.

Halifax, N.S.

TWO cases of special interest appeared in my practice recently. I had attended both patients for some years, so knew their previous history and constitution, which in both cases revealed a state of comparative good health. Therefore, I was surprised to know that they had both suddenly developed a marked haematuria; in the one case with practically no symptoms except the passing of practically pure blood by the urethra, and in the other the same condition with the addition of pain localized to the left side with some rise of temperature and malaise as well. The cause of the bleeding puzzled me, because I knew the history of both cases fairly accurately.

However, the passing of urine, in my presence, into three glasses (the three-glass test) and the examination of a few drops of the urine under the microscope, immediately helped to put me on the right track. A further examination of the urine by the pathologist with the request for a culture and an examination for tubercle bacilli, showed the presence of bacillus coli only and no tubercle bacilli.

A careful summing up of the history with an abdominal, rectal, and x-ray examination of the kidney region proved both cases to be ones of bacillus coli infection of the kidneys. In one case mild and bilateral, in the other severe and unilateral.

Case 1. The mild variety of bacillus coli infection of the kidneys (renal pelvitis).

Boy, aged eight, November 24th, 1918, sudden haematuria following within twenty-four hours of operation upon nose (removing spur of bone from nasal septum). Past history: For years has been

Read at the annual meeting of the Medical Society of Nova Scotia, Antigonish, July 2nd, 1919.

constipated and ill nourished with an unhealthy complexion and nervous temperament. No previous history of any kidney or bladder trouble. Has been having strenuous massage by an osteopath for constipation, but not under medical direction. Present history: Suddenly, forty-eight hours after operation on nose, he experienced pain on micturition and the passing of bright red blood with clots and particles of yellow material, the urine being bright red with thick yellow deposit. No increase of pulse rate or rise of temperature. Urine examination: Blood and pus and bright red clots. Neutral or slightly acid reaction. Shot silk appearance of some specimens with strong fishy smell. Albumen positive, specific gravity, 1010. Microscope showed nothing but blood and pus cells. Culture showed bacillus coli, but no tubercle bacilli. Rectal examined and sound, negative. X-ray examination revealed nothing. Heart, lungs and other organs healthy. No pain, tenderness or swelling in kidney regions.

Diagnosis: Nephritis or renal pelvitis (pyelo-nephritis), due to infection by the colon bacilli reaching the kidney either directly through lymphatics or through the blood stream; the constipation favouring the development of colon bacilli and the injury to the kidneys by the severe massage lowering the vitality of that organ so that it became easily affected. The operation with general anaesthetic and resulting starvation still further lowering the general vitality.

Treatment: Rest, with the administration of potassium and sodium citrate until an alkaline urine was obtained, as the colon bacillus can only grow in an acid medium.

Result: Cure within one month.

December 24th, 1918. Urine examination: Colour, straw, clear; odour, ammoniacal; reaction, strongly alkaline; specific gravity, 1014; albumen, none; sugar, none; deposit, a slight flocculent whitish deposit; microscopically, no pus, but crystals of calcium phosphate were present.

Has had no recurrence and has been perfectly well ever since.

Case 2. The severe type of bacillus coli infection of kidney, unilateral bacillus coli nephritis.

Boy, aged eighteen, July 26th, 1918. After working all day lifting stone, he felt exhausted with a pain in left lumbar region. He remained in an exhausted condition for a week, ill enough to consult a physician. After one week he felt well again, until August 20th, 1918, when he suddenly passed bloody urine with red clots

accompanied by pain. Pain over bladder and over left kidney. This condition remained present until operation. Intermittent haematuria with blood clots and pus; one specimen being clear and possibly the next cloudy, with blood clots. Fever of 100° to 104° with malaise persisted throughout until operation. Microscopic examination of the urine showed blood and pus with motile organisms proving on culture to be bacillus coli. X-ray examination revealed nothing.

Treatment. Urotropin and sodium acid phosphate proved to be of no avail. Nor did potassium citrate in large doses along with sodium citrate in milk. His condition remained very much the same. His temperature remained high, about 104° and the urine much the same. Pain and swelling with rigidity in left kidney region. I decided, September 8th, 1918, to explore left kidney, and found large dark oedematous kidney difficult to deliver. After delivery, there proved to be multiple abscesses or purulent infarcts evidently of a septic embolic nature.. I excised the kidney with satisfactory after results.

Diagnosis. Severe unilateral bacillus coli nephritis or multiple abscesses of left kidney of embolic origin.

Explanation of Case 2: The primary source of infection is from the bowel. In considering the history of the case the evidence of strain produced by the heavy lifting jarred the kidney or loosened it from its attachments causing an injury. The general physical exhaustion from overwork and long hours, lowered the vitality so that bacillus coli could enter the general circulation, producing bacterial emboli and thus septic infarcts in the injured left kidney. The month intervening between the initial lesion and the evidence of metastasis to the left kidney favoured this explanation of infection by the blood stream. Another possibility is a direct infection of the left kidney from the descending colon through the lymphatic system. June 30th, 1919. Urine normal. Patient looks and feels perfectly well, and has been so ever since recovery from the operation.

Editorial

THE RESIGNATION OF SIR ANDREW MACPHAIL

IT has been with much regret that the Editorial Board has accepted the resignation of Sir Andrew Macphail as chief editor of our Journal; a resignation necessitated by an impairment of his eyesight, the result of an accident which occurred some years ago. While accepting his resignation with reluctance, they desire to express their appreciation of the value of the services rendered to the Journal by Sir Andrew Macphail during the fifteen years in which he has been connected with it; at first as a collaborator on the Editorial Board, when it was still the *Montreal Medical Journal*, and in the last half of this period as Chief Editor with the late Dr. John McCrae as his assistant. The profession in Canada owes much to Sir Andrew Macphail for this service rendered freely and in a most disinterested manner.

To Sir Andrew Macphail, literary work, however, has always made a peculiar appeal. Even in his undergraduate days his lucid and concise writing attracted the attention of his professors, and after his graduation, literature shared with his professional duties much of his time and thought.

He was appointed Professor of the History of Medicine in McGill University in 1905, and in the same year delighted his friends by the appearance from the press of his first book of essays: "Essays in Puritanism," which by its detail of facts and its keen description of the spirit of the men who founded Massachusetts and contributed so much to its growth during the eighteenth and nineteenth centuries, evinced much historical study. "Essays in Politics" and "Essays in Fallacy" followed in succession, and have been

widely read. All his writings have attracted attention by the originality and vigour of their style, which was often trenchant, always polished, and in places displayed a peculiar genius for paradox and antithesis which made them charming and stimulating reading.

His "Book of Sorrow", an anthology of English verse containing much of the best that has been written upon the theme of sorrow, was published during the second year of the war, and must be regarded not only as an indication of his extensive knowledge of poetry, but of his possession in a high degree of the critical faculty of selection. A further proof of this was evidenced by his bringing into notice the verses by Marjorie Pickthall who will always be given a high position among our Canadian poets.

Early in the war he volunteered for overseas service, and did much good work in a Canadian Field Ambulance Corps. In 1917, Sir Andrew Macphail was asked to deliver the Cavendish Lecture in London. "A Day's Work," which was the title of his address, was a brilliant description of service in connection with ambulance work at Vimy Ridge. In the early months of the present year he has given us a very sympathetic account of the life of his friend, Lieutenant-Colonel John MacCrae.

Sir Andrew Macphail is as yet a comparatively young man, and it is the sincere wish of all his friends that with increased leisure he may still be able to bring forth out of his treasure house, many things new and old.

THE DEPARTURE OF PROFESSOR ADAMI

THE acceptance by Professor Adami of the Chancellorship of the University of Liverpool and his resignation from the chair of pathology in McGill University, which he so ably filled for many years, must not only be regarded as an important event in the history of McGill University, but as a

great loss to Canadian medicine, and to our Medical Association, at whose annual meetings he always presented some valuable contribution, and also to our Journal of which he was an important collaborator. He came to Montreal in 1892, bringing with him a fresh and deep enthusiasm for all that was new and wonderful in the medicine of those days. Pathology in the old world had just come into its own, and Professor Adami brought with him to Canada its newly acquired truths and its new methods of research. He came as a young and already distinguished scholar from Owen's College, Manchester, from Christ's College, Cambridge, from Breslau and from Paris. For twelve years after graduation he had followed the arduous way of science and had enriched his mind with all the learning of the schools. A good student, he was a most interesting instructor, and his students, now scattered far and wide, on frequent occasions showed their appreciation of his teaching. In Montreal he was for many years the head of pathology in the University, in the hospitals and in its medical societies.

Professor Adami had the use of letters, and wrote with a peculiar charm. The subject of inflammation about that time was attracting much attention, and his essay upon it in Albutt's "New System of Medicine" was characterized by great clearness of thought and expression, and for many years was regarded as authoritative. He wrote incessantly from his full store, and in 1908 brought out his great work on the "Principles of Pathology". For the second edition he had as fellow labourer the late and much lamented Dr. John McCrae.

In 1915, Professor Adami went overseas as Lieutenant-Colonel in the Canadian Army Medical Corps. Shortly after his arrival in England he was placed in charge of the Canadian Army Medical Records. Under his editorship the first volume of the story of the Canadian Army Medical Corps was published one year ago. The second volume, we understand, is now in print. In those years of war he renewed old ties,

and it did not come altogether as a surprise to his friends on this side of the seas that he should choose to complete his career in the land of his birth. He will be much missed, not only by the profession generally in Montreal, but also by every member of our Association, both in its councils and at its meetings.

In the new and important post to which he has been elected Professor Adami may be assured of the kind remembrance, good wishes and hearty admiration of every reader of our Journal.

THE NEW DENTISTRY

A TOMBSTONE in the churchyard in Cheltenham, England, bears this inscription: "Here lie I and my three daughters, who died from drinking Cheltenham water. If we had stuck to Epsom salts, we wouldn't be in these here vaults."

In days gone by, to be old was likely to be toothless, which was an unfortunate business. At a later day, many of the old were rescued from toothlessness by glittering crowns and massive bridges, but pity 'twas, many of the rescued failed to grow old, and their new teeth bore the same relation to their early demise as did the Cheltenham waters to the subjects of the epitaph above.

Dental infection and disease were not connected for the first time by this generation, for in Benjamin Rush's "Medical Inquiries and Observations", the following passage occurs: "Some time in the month of October, 1801, I attended Miss A. C. with a rheumatism in her hip joint which yielded for a while to the several remedies for that disease. In the month of November it returned, accompanied by a severe toothache. Suspecting that the rheumatism was excited by the pain in her tooth which was decayed, I directed it to be extracted. The rheumatism immediately left her hip and she recovered in a few days. I cannot help thinking that our success in

the treatment of all chronic diseases would be very much promoted by directing our inquiries into the state of the teeth in sick people and by advising their extraction in every case in which they are decayed. It is not necessary that they should be attended with pain in order to produce diseases, for splinters, tumours, and other irritants before-mentioned often bring on disease and death when they give no pain and are unsuspected as causes of them."

Those who heard the address of William Hunter in Montreal some years ago will associate his name with the reopening of the subject of dental infections as a cause of general disease. He drew attention then to the large number of British and American people who had had so-called "American dentistry" done, and who suffered from pernicious anaemia and other systemic diseases. From such observations, and particularly from the development of radiographic studies, the dental profession of late years has adopted to a greater extent the medical rather than the mechanical point of view toward artificial teeth.

Fixed bridge work in the mouth was found to be clinically harmful because to fit properly a full dental band about the tooth, the larger biting end had to be ground to the same size as the smaller neck of the tooth, thus robbing the tooth of its enamel. If this grinding was not done, accurate fitting was impossible, and a dead space open to infection was established at the gum margin with ultimate cutting off of the nutrition of the tooth and the train of evils resulting in abscess formation. Another difficulty lies in the "anchoring" of the pillars of the bridge by which the stimulus of movement is removed from the pericementum, which in consequence loses its vitality.

There must follow a strong reaction against the placing of such mechanical appliances in the mouths of people, and the present trend of dental teaching would discourage fixed bridge work except where the mechanical conditions are ideal and the dangers of infection can be eliminated; a rare combination.

In its stead, removable appliances and more effective measures for sterilizing and closing root canals, are employed and the modern dentist instead of being a purveyor of body infection, will be one of its most potent enemies.

HIGH PROTEIN DIET AS A FACTOR IN THE PRODUCTION OF NEPHRITIS

THE ætiology of a large number of the cases of nephritis met with in practice is acknowledged by all to be obscure. An attempt has been made recently by Newburgh, of Ann Arbor, to obtain further insight into the causation of such cases. In the last number of the *Archives of Internal Medicine* he has presented us with the results of investigations carried out on rabbits to determine the effect on the renal cells of a dietary with an abnormally high protein content.

It is generally acknowledged that the amount of injury produced by nephro-toxic substances on the kidney is largely dependent on the degree of their concentration in the blood stream. Mercury in therapeutic doses has usually no detectable toxic effect on the kidney, but when its use is long continued, albumen and casts may appear in the urine, and when taken in larger amounts in a soluble form, an acute nephritis will result. The amount of injury to the renal cells thus appears to be determined not only by the inherent toxic properties of the foreign substance, but also by the amount of it which passes through the kidney cells in a unit of time. Newburgh in his investigations tried to determine whether the same rule applied to the nitrogenous bodies habitually excreted in the urine. "May it not be true," he asks, "that the kidney can excrete a certain amount of nitrogenous matter for an indefinite time without suffering harm, but will be injured if the quantity of some, or all of the nitrogenous waste products be greatly increased, or kept at a high level over a long period?"

The experiments consisted in feeding rabbits on a diet abnormally high in protein. The protein content was raised in one group by means of egg whites; in a second group by means of casein; and in a third group by feeding soy beans. He claims the following results were obtained: Signs of renal injury quickly and constantly appeared in rabbits that ate several egg whites mixed in a dietary containing meal, cabbage and carrots. If this dietary was prolonged over several months, a well marked acute or sub-acute nephritis resulted.

When casein was employed to increase the protein element in the dietary, the rabbits showed no demonstrable renal injury, so long as no more than 15 gms. of casein daily were eaten by them, but when the daily intake was 30 gms., i.e., about three times the amount of protein in a rabbit's normal dietary, well marked symptoms of injury to the kidney appeared in the urine.

All the rabbits to whom soy beans were fed acquired in time a chronic nephritis, closely resembling the secondarily contracted kidney of pathologists. Judging by the constancy and severity of the damage to the epithelium of the convoluted tubules, the impression was gained that the offending substance had its primary and chief deleterious effect upon the epithelium of the tubules, and the injury to these was associated with an overgrowth of the connective tissue.

That the renal injuries produced by these diets was not due to the passage through the kidney of urea in large amounts was apparently negatived by the results obtained from adding pure urea to the extent of 5 gms. daily to the diet of rabbits who were kept on an otherwise normal diet. Even when this excess of urea was continued for months, no indications of any injurious action on the kidney was observed. Moreover, a comparison of the urea output in rabbits eating casein, with that of those eating soy beans, showed that nephritis appeared in the soy bean group with a much smaller output of urea, than in the casein group. A chronic nephritis

was produced when soy beans were eaten in sufficient quantity to double the total nitrogen metabolism, but casein and egg white required to be fed in sufficient amount to treble the total nitrogen in order to injure the kidney seriously; and furthermore, the injury from both casein and egg white tended to assume an acute rather than a chronic character. The results of the investigation suggested that the kidney injury was related rather to those digestive products of protein which vary both quantitatively and qualitatively with the type of protein eaten. Newburgh thinks the amino acids may be important factors. They form a constant constituent of the urinary excretion, and their amount varies with the character of the protein ingested. At present, however, no data are available to enable us to speak with certainty on the matter.

IN view of the unusually large registration of students in the first year in medicine in the various universities it has been thought of interest to obtain the exact figures in so far as these have been accessible to us. An enquiry to this effect has elicited the following facts:

At the University of Toronto, four hundred and twenty students are registered in the first year, of whom two hundred and fifty-four are in the five-years' course, and one hundred and sixty-six in the six-years' course. The number of men who have been on overseas service in the various years is as follows: Second year, forty-seven; third year, sixty-five; fourth year, sixty-two; fifth year, fifty-two. A special schedule has been arranged for the students registered in the five-years' course. In the six-years' course, the students are required to take one optional course during their first year, either English, scientific French, scientific German, or mathematics.

At McGill University, the number of students registered in the first year is two hundred and thirty-three, of whom one hundred and forty-nine are in the five, and eighty-four in the six-years' course; of these, six are women.

Manitoba Medical College has one hundred and eight students registered in the first year.

In the University of Montreal, there are ninety-five, of whom sixty-five are holders of a diploma of Bachelor of Arts, Letters, or Science.

At Queen's University, Kingston, there are eighty-one. The increase over previous years is as follows: 1915-1917, seventy-four; 1916-1917, fifty; 1917-1918, thirty-nine; 1918-1919, fifty-nine; 1910-1920, eighty-one.

The University of Alberta has seventy-three students in the first year, of whom sixty-eight are men and five women, as against forty-three last year. The total registration in medicine is one hundred and twenty-nine as against eighty-six last year, and, of these, returned men form a large proportion.

Dalhousie University has seventy students registered in the first year.

The Western University has fifty-four, of whom thirty-six are registered in the five, and eighteen in the six-years' course. In the session 1918-1919, thirty-six students were registered in the first year, and in 1917-1918, eighteen.

The cause of this general increase in registration is ascribed to the return from overseas of men who enlisted at the usual age for entrance into medicine during the five years of the war, and also to the desire for knowledge such as universities alone can give, which has been stimulated by the need of the present time for reconstruction along all lines.

The Association has appointed the J. B. Lippincott Company, Canadian Branch, 201 Unity Building, Montreal, official agents for the purpose of soliciting new subscribers to the Journal. The Company's salesmen will during the next year make an active canvass of the profession of the Dominion of Canada and Newfoundland.

Retrospect

GOETSCH, EMIL: "NEWER METHODS IN THE DIAGNOSIS OF THYROID DISORDERS." *N.Y. State Jour. of Med.*, July, 1918.

IN this article, Goetsch discusses the production of symptoms of hyperthyroidism by adenomata of the gland, and the adrenal test in the detection of hyperthyroidism.

Of the two types of thyroid enlargement, the colloid and that of Graves' disease, there is a general agreement of the relation of the pathological characters and the clinical manifestations. In the ordinary colloid enlargement there is enlargement of the thyroid alveoli with thinning and atrophy of the epithelium. Clinical manifestations of a general character are commonly absent, but a mild grade of hyper- or even hypo-thyroidism may exist. When these growths attain a large size, definite hypothyroidism may be present from diminished activity of the epithelial elements.

In Graves' disease, on the other hand, there is a diffuse hypertrophy and hyperplasia of the epithelial elements, with infolding of the lining membrane of the alveoli, a marked decrease of colloid and an increase in vascularity.

The relationship of adenomata to clinical symptoms has, however, been obscure and confused. The histological characters are not constant, every conceivable type being found, depending on the growth and proliferation of the cells, and on the various forms of degeneration to which these growths are liable. Where large adenomata are present with extensive atrophy of the epithelium, hyperthyroidism may be present. Again, symptoms may be lacking or definite symptoms of hypothyroidism may be found. This variation in symptoms has led to confusion amongst pathologists as to their significance, and views are confused in their relationship to the opposed types of clinical manifestation. It seems probable that the adenomata are largely responsible for the failure of pathologists to predict the character of clinical symptoms in about 20 per cent. of cases. It seems, therefore, highly desirable to obtain a histological method capable of demonstrating within the cell the structures responsible for their functional activity. Certain elements, termed mitochondria, exist in epithelium, ap-

pearing as granules or straight or curved filaments or rods of varying lengths up to four or five microns. They are most abundant in the active stages of the life of the cell and diminish progressively in number as the cell becomes senile. In increased activity of the cell it seems probable that the mitochondria are increased.

In two hundred cases of thyroid disease, examination showed that in colloid goitre, unassociated with symptoms of hyperthyroidism, very few or practically none of these structures were found in the thyroid cells. In every case of exophthalmic goitre examined, the mitochondria were present in enormous numbers. In the cases associated with mild hyperthyroidism the mitochondria are found in moderate numbers, whilst in the cases of adenomata, with symptoms of hyperthyroidism, they are found in excessive numbers, and this holds true whether the adenomata presents the colloid picture of that of hypertrophy and hyperplasia. The question of symptoms produced by adenomata is purely one of the amount of secretion elaborated. With lessening activity the mitochondria diminish in number and may almost completely disappear. A further proof that adenomata are responsible for hyperthyroidism is furnished by the clinical observation that their removal by surgical procedures almost immediately improves the condition of the patients. The presence of small adenomata, not large enough to cause any obvious enlargement of the gland, is responsible for many cases with symptoms of hyperthyroidism and their degeneration for spontaneous cure. Recurrence of the adenomata may occur with recurrence of symptoms. Many cases of "nervous breakdown" may be due to small growths presenting no obvious enlargement of the gland.

Adrenal Hypersensitivity in Clinical States of Hyperthyroidism

Experimental work by various observers has shown an increased thyroid secretion from stimulation with adrenalin, due to the increased irritability of the sympathetic system. With the adrenalin stimulus, the blood pressure rises, but the pulse rate is not increased, the latter results being contrary to those observed by Goetsch in clinical cases.

Doses of 5 c.c. ($7\frac{1}{2}$ m.) of 1-1000 fresh adrenalin solution, although producing a very slight rise of blood pressure in healthy people, produces very marked changes in hyperthyroidism. The blood pressure soon rises at least ten points, and may rise to as much as fifty. In thirty to thirty-five minutes, there is a moderate

fall followed by a slight secondary rise. Along with this there may be found tremor, asthenia, throbbing, and in fact an increase of any symptoms complained of by the patient. Vaso motor constriction with pallor is often followed by flushing and sweating. The pulse rate is considerably increased, and the diastolic pressure curve often lessens during the systolic rise.

In order to interpret a test as positive, a majority of these signs or symptoms should be manifest. At times there is a considerable rise in pulse rate without much change in blood pressure, but with a considerable increase of symptoms. Again marked increase in symptoms may be present without much change in the blood pressure or pulse rate and may be regarded as positive; although a slight transient rise in blood pressure and pulse occasionally occur in other conditions, but with complete absence of the subjective and objective symptoms upon which much stress is laid in the diagnosis. In hyperthyroidism again the reaction lasts from three-quarters to an hour and a half, distinguishing it from the transient reaction in other conditions. The test has proved of the greatest value in differentiating hyperthyroidism from conditions stimulating it. Even in adenomata, too small to feel or see, positive reactions occur, and the removal of the growth results in complete relief of the symptoms.

Should the writer's views be substantiated, a considerable number of ill-defined nervous conditions should be relieved by surgical treatment. A suspicion of early tuberculosis again is often awakened in the subjects of hyperthyroidism, confusion between the two conditions being due to the presence in both of such symptoms as slight elevations of temperature, rapid pulse, weakness, and sweats.

F. G. FINLEY

HYPERTROPHIC PYLORIC STENOSIS IN INFANTS

- REUBEN, MARK S.: "PYLORIC STENOSIS IN INFANCY." *Archives of Pediatrics*, 1914.
- DOWNES, W. A.: "PYLORIC OBSTRUCTION." *Surgery, Gynaecology and Obstetrics*, 1916, vol. xxii, p. 251.
- HOLT, L. EMMETT: "HYPERTROPHIC STENOSIS IN INFANTS." *Journal American Medical Association*, May, 1917, vol. lxviii.
- SAUER, L. W.: "THE USE OF THICK FARINA IN THE TREATMENT OF PYLORIC STENOSIS." *Archives of Pediatrics*, July, 1919.
- PORTER, Langley: "A RETROSPECT OF FIFTEEN YEARS' EXPERIENCE IN THE TREATMENT OF HYPERTROPHIC PYLORIC OBSTRUCTION IN INFANTS." *Archives of Pediatrics*, July, 1919.

THE condition known as hypertrophic stenosis in infants, using the term adopted by Holt, has attracted, in recent years, widespread and increasing interest among pediatricians and surgeons. This interesting condition was first recognized by Williamson in 1841, who, in a paper entitled, "A case of Scirrhous of the Stomach, probably Congenital," reported the case of a male child who died at the age of five weeks, in whom at autopsy the pylorus was found hard and indurated, and so contracted as scarcely to admit a small probe.

At the present time most writers are in agreement in the description of a typical case; though the wide difference in the recorded percentage of mortality makes it impossible to avoid the conclusion that many cases of vomiting in infants are classed as hypertrophic stenosis by some writers which would be excluded by others. The clinical picture as described by Holt is fairly in accord with that of other pediatricians, and carries with it the weight of his large experience, one hundred and forty-one cases reported in 1917. An infant, usually breast fed, who has nursed well, gained normally in weight, has had sufficient and well digested stools, begins to vomit persistently and forcibly. The onset of the vomiting is usually in the third or fourth week and occurs soon after or even during nursing. The whole content of the stomach is shot out with violence. The vomiting is not accompanied by pain, and, until secondary fermentation sets in, the food is returned unaltered. As a consequence of the vomiting, constipation is an early symptom. The stools are dark brown, and in severe cases may contain no milk residue. Visible peristalsis is generally accepted as a constant symptom. The waves pass from left to right and are best seen

after feeding. It is usually easy to differentiate between stomach and intestinal peristalsis.

A palpable tumour is usually present, and is regarded by many as essential to diagnosis. Reuben states, however, that a tumour was felt in only 25 per cent. of his cases; Holt, that though a tumour is not essential to the diagnosis, it can nearly always be felt by a careful observer, and in fully three fourths of the cases it is unmistakable. In eighteen out of nineteen cases reported by Richter, the tumour was palpable before operation; in three, which he classes as spasmodic, no tumour was found. Downes states that in the sixty-six cases operated on by him, with only one exception he was able to detect the characteristic tumour at the pylorus.

Richter describes this tumour as found at operation and at autopsy to be a firm olive shaped body roughly from one half to three quarters of an inch in length. It is covered by smooth glistening peritoneum. There is no external evidence of inflammatory reaction and there is no fixation. It is sharply marked off from the stomach and duodenum. Histologically it is a simple hyperplasia of the circular muscle fibres.

From the fact that the tumour is palpable so soon after birth, and that it has been observed in the new born (Ashby, Simonson, Delamere), and once at least in a seven months' foetus, the hypertrophy is regarded by most writers as prenatal. Wachenheim found in four consecutive autopsies on new born infants dying from other causes, "a thickening of the pylorus, as described in cases of true pyloric hypertrophy." He suggests that a relative thickening, a potential hypertrophic stenosis, is a normal condition in the new born infant.

Writers differ widely in their estimation of the part played by spasm both as regards the determination of the onset of the obstruction and as a possible factor in producing the hypertrophy.

Downes and Scudder believe that an oedema, observed at operation, is the immediate cause of the obstruction in an already hypertrophied pylorus. Still and Kelly hold that spasm plays the dominant rôle; while Rachford believes that spasm is the cause of an hypertrophy which is not prenatal. As to the aetiology of the hypertrophy and the subsequent stenosis, no theory supported by experimental or other convincing evidence has been put forward. Quite recently, however, in the *Lancet* (September, 1919), George R. Pirie has made a suggestion that the hypertrophy is caused by a lack of balance in the prenatal adrenalin secretion; the hyper-adrenalinism producing an hypertrophy of unstriped muscular fibre

throughout the body. Proof is not claimed. One autopsy is detailed in which an enlarged adrenal was found associated with hypertrophy of the sphincter muscles of the oesophagus, pylorus, ileocecal region of the intestine, rectum, and ureters. The most reasonable view would appear to be that both hypertrophy and spasm are usually present, that the hypertrophy is prenatal, and that superimposed on this, spasm determines the onset of the obstructive symptoms.

The important thing to determine is not the degree of the hypertrophy nor the completeness of the spasm; but the degree of obstruction to the passage of food.

The method of treatment adopted or recommended may follow either medical or surgical lines. The statistical evidence presented is so confusing in its widely varying mortality, that a judgement on the relative values of the two lines of treatment, based on the reported percentage of deaths, is impossible. Hutchinson reported seventeen cases treated at home with seventeen recoveries; sixty-four cases treated medically in hospital with a mortality of 78 per cent. Richter, in 1914, reported twenty-two cases treated by gastro-enterostomy with nineteen recoveries; Scudder, seventeen with thirteen recoveries; Downes, twenty-two with fifteen recoveries; Porter this year reports twenty-six cases treated by Rammstedt operation with only two deaths; Strauss, one hundred and forty-two with three deaths; Sedgwick, sixty-eight cases, of which sixty-four were treated without operation, and without one death. More valuable are the statistics of a single clinic in which the cases were treated by the same physicians at different periods and by different methods. Fortunately, such a comparison is found in Holt's paper.

	First period, 1901-1911:	Re-	Died	Percentage
		No. covered		of deaths
Cases without operation.....	24	10	14	58
Gastro-enterostomy.....	17	7	10	58
Second period, 1912-1914:				
Cases without operation.....	7	3	4	57
Cases with operation:				
Gastro-enterostomy.....	24			
Rammstedt operation....	6			
	—	30	17	13
				43
Third period, 1915-1916:				
Cases without operation.....	2	1	1	50
Rammstedt operation.....	61	47	14	23

It is significant not only that the mortality of the cases operated on decreased from 58 per cent. to 23 per cent., but that the number of cases presented for operation in the latest period was sixty-one out of sixty-three. Holt believes that many of the milder cases may recover with medical treatment alone; but that every case which does not improve under such treatment in the course of two to three weeks should be treated surgically. In the more severe forms, only a very short delay is permissible.

The medical treatment consists in careful feeding and stomach lavage. Breast feeding, if possible, should be maintained. In July of last year Sauer reported the successful use in this condition of a thick food such as had previously been recommended in cases of idiopathic vomiting. He reports twelve cases fed in this way, in all of which the vomiting soon stopped. In most of the cases, the palpable tumour and visible peristalsis persisted for months after the vomiting had ceased. Porter, in July, 1919, reported ten cases treated in this way with recovery. In the discussion which followed the reading of this paper, Helmholtz stated that they were continuing to use this method of treatment which consisted in feeding breast milk or cow's milk mixtures thickened with farina or rice flour.

Up to 1914, the surgical treatment usually adopted was a posterior gastro-enterostomy. The mortality varied from 25 per cent. to 32 per cent.

Since that date the Rammstedt operation is preferred by most operators. An incision is made through the peritoneum and the hypertrophied pyloric sphincter down to the submucosa. Its success depends on the ability of the mucosa to protect the peritoneum from stomach or duodenal leakage. While simple and rapid, the operation is not wholly without difficulty. The obstructing sphincter must be thoroughly divided, but the mucosa must not be injured. On the stomach side, this is easily avoided, but on the duodenal side much care is necessary. The advantages of the procedure are obvious, and the number of cases in which this operation has been performed is sufficient to prove that when successfully accomplished, the results are satisfactory.

F. A. C. SCRIMGER

MODERN VIEWS ON ASTHMA IN CHILDREN

- BLACKLEY: "EXPERIMENTAL RESEARCHES ON THE CAUSE AND NATURE OF HAY FEVER." London, 1873.
- SCHLOSS: "A CASE OF ALLERGY TO COMMON FOODS." *Am. Jour. Diseases of Children*, 1912, vol. iii, No. 6, p. 341.
- TALBOT, FRITZ B.: "THE TREATMENT OF ASTHMA IN CHILDREN." Read before the Medical Society of the County of Kings, March 20th, 1917.
- WALKER, J. C.: "A CLINICAL STUDY OF FOUR HUNDRED PATIENTS WITH BRONCHIAL ASTHMA." *Boston Med. and Surg. Jour.*, August, 1918.
- WALKER, J. C.: "SENSITIZATION AND TREATMENT OF BRONCHIAL ASTHMATICS WITH POLLENS." *Am. Jour. of the Med. Sciences*, March, 1919.

DURING the last few years a great deal of work has been done in connection with anaphylaxis in asthma and eczema. These two disorders are often very closely associated, and in a succeeding number of this Journal we hope to discuss the aetiology and treatment of eczema in children.

Asthma, like other diseases, was treated empirically and symptomatically until recent advances in medicine made it possible, in many cases, to determine its cause. Excluding renal, cardiac and thymic asthma, and asthma due to pressure of bronchial glands, there is still left for consideration a large group of cases which are commonly called "bronchial asthma", and it is with this type of case that some progress in our knowledge of its aetiology has been made along anaphylactic lines during the last few years.

The essential feature of this form of asthma is the parenteral introduction into the body of a foreign protein substance leading to the development of a specific proteolytic enzyme which appears to be stored in the body cells, causing them to be sensitized. A second introduction of this protein causes a reactivation to take place with the rapid splitting up of the protein, and the formation and liberation of poisonous constituents. Manirloff injected animals with the serum of an asthmatic, thus supplying the constitutional factor, and then injected a solution made from the Charcot-Leyden crystals of the asthmatic sputum. Severe anaphylaxis developed in the animals then treated, while there was none in the controls.

The investigator concludes that the crystals, due to the products of protein decomposition, are the cause of the attacks.

Chandler Walker says "we now know that, when a specific antigen (a protein in the case of asthma and anaphylaxis) meets its antibody, the reaction between them gives rise to a toxic product and this causes the characteristic symptoms known as anaphylactic shock."

In 1873 Blackley found that pollens caused a reaction on the scarified skin of individuals suffering from hay fever. In 1912 Schloss described a skin reaction, obtained with egg protein in patients susceptible to eggs, and from that time on a host of workers have been applying themselves to the problem.

The method of testing anaphylaxis is performed in the following manner:—a linear scarification is made through a drop or two of decinormal soda solution which is placed on the flexor surface of the arm. Care should be taken not to draw blood. The scarification is then inoculated by applying the substance to be tested and allowing it to remain there for twenty minutes after which it may be wiped off. If positive, generally in about ten to twenty minutes, an irregular shaped urticarial wheal appears which is surrounded by a pink zone. Occasionally the reaction takes longer to develop and in some cases has been known to take from one hour and a half to two hours. A control should always be done, as it is a well-known fact that a pseudo reaction may appear in certain individuals, *e.g.*, neurotics and in patients with an "exudative diathesis".

Very often the same individual may react to more than one protein, and still more frequently it requires a very careful and painstaking search to discover the offending protein.

Talbot has classified asthma in the following manner:

- I. Inspiratory type due to
 - (a) Hay fever—pollens.
 - (b) Animal emanations: Horse, dog, and cat's hair; dust and bird feathers.
- II. Ingested type due to
 - (a) Meat
 - (b) Milk
 - (c) Eggs
 - (d) Grains: oats, wheat, etc.
 - (e) Vegetables: peas, beans, potatoes, etc.
 - (f) Fruits: orange, banana, etc.

- (g) Nuts: walnut, pecan, etc.
- (h) Fish: salmon, etc.
- (i) Shell-fish: lobsters, crabs, clams, etc.

III. Bacterial type.

After the offending protein or proteins have been discovered, there are two methods of treatment.

I. The simplest and most satisfactory is to remove the source of the trouble.

II. If it is not feasible to remove the cause, the patient may be treated by a method of gradual immunization. This method of treatment is still in the experimental stage.

Preparation of the different food stuffs which may cause asthma are put up in capsule, by the Arlington Chemical Company. Many of these preparations have been and are being tested by Dr. Chandler Walker, of the Peter Bent Brigham Hospital, Boston.

H. P. WRIGHT

Obituary

LIEUTENANT-COLONEL ROBERT WILSON

THE sudden death of Lieutenant-Colonel Robert Wilson, C.A.M.C., of Montreal, who died at the age of fifty-three in St. Andrew's Military Hospital, Toronto, on November 1st, comes as a shock to his many friends and acquaintances throughout Canada. Colonel Wilson was a graduate of McGill University in medicine, and was for many years superintendent of the Western Hospital in Montreal, where he did pioneer work in *x*-rays and electro-therapy. At the outbreak of the war he went overseas with the first Canadian contingent, and was attached to No. 1 Canadian General Hospital in France and later to Granville Canadian Special Hospital at Ramsgate. From there he was called to headquarters in London, raised to the rank of Lieutenant-Colonel, and given charge of the *x*-ray work and equipment of all the Canadian hospitals overseas. After organizing this work he was appointed consultant in electric and hydro-therapeutic treatment for Canada,

and was responsible for this equipment in all the military hospitals here with headquarters at Hart House, Toronto. He was serving in this capacity at the time of his death. Colonel Wilson was a man of untiring enthusiasm, with a genius for mechanics, and his untimely cutting off in the midst of a highly useful career is a matter of much regret to the profession.

DR. WILLIAM WYMOND WALKEM

DR. WILLIAM WYMOND WALKEM, for nearly half a century a resident of Victoria and Vancouver, died on September 29th, at the age of sixty-nine. He was a son of Lieutenant-Colonel Charles Walkem of the Royal Engineers. After graduation at McGill University, he went to British Columbia as private secretary to his brother, Honourable George Walkem, at that time prime minister of the province. He subsequently engaged in the practice of his profession at Victoria, Nanaimo and Vancouver. He was elected, 1894, to the Provincial Legislature for the district of South Nanaimo.

THE death occurred at Nashville, Tennessee, of Brigadier-General M. C. McGannon, professor of surgery in the Vanderbilt University. He was born in Edwardsburg, Ontario, and graduated in medicine at McGill University. He was recently appointed Surgeon-General of the State of Tennessee.

DR. L. B. DE LA BRUERE, of Shawinigan Falls, lost his life in a canoe accident at Lake St. Charles, on September 27th. He was a son of the late Honourable Boucher de la Bruere.

DR. RITCHIE, of Cochrane, who was seriously injured in a motor accident on the Banff road, died in a hospital at Calgary on October 5th. He was a graduate of Edinburgh University and was widely known as an authority on goitre.

DR. CHARLES S. ELLIOTT died in Toronto on October 24th, in his eightieth year. He was born in St. Mary's, Nova Scotia, studied medicine first at Halifax, later at Harvard University, where he graduated in 1860. He practised for many years in the northern parts of Ontario. In 1888 he returned to Toronto, where he made a specialty of nervous and mental diseases. He was a medical practitioner of the old school, a man of kindly disposition and sterling integrity.

DR. J. K. HIGH, a resident of Preston for many years, died at the Galt Hospital recently, at the age of seventy-nine.

Miscellany

News

THE WESTERN PROVINCES

THE annual convention of the Manitoba Medical Association was held the second week in October; about seventy medical men from all over the provinces attended the sessions. Dr. G. Shortreed, of Grandview, delivered the presidential address: "The Medical Profession and the New Democracy." Medical and surgical clinics were held at St. Boniface Hospital, and malnutrition in infants and children was discussed at a clinic held in the Children's Hospital, Winnipeg. The officers elected were: president, Colonel John Gunn, M.D.; first vice-president, Dr. Ferguson, Pilot Mound; second vice-president, Major N. K. McIvor; secretary, Dr. T. G. Hamilton; treasurer, Dr. S. J. S. Pierce, Brandon; executive: Dr. Rogers, Dauphin; Dr. Poole, Neepawa; Dr. Gordon, Portage la Prairie; Dr. Lamont, Treherne; Dr. Miller, Morden.

THE annual convention of the Dominion Pharmaceutical Association was held in Winnipeg for three days in the beginning of October. The address of the president formed the theme of a discussion and "aspirin" was the principal subject. Although there was some difference of opinion, the convention finally agreed to recommend that the patent protecting the name of "aspirin" from general use should be cancelled in Canada, as it had been in the United States.

DR. GEORGE STEPHENS has been appointed by the board of trustees to be superintendent of the Winnipeg General Hospital. Dr. Stephens enlisted in 1915 for medical service in France and went overseas. He was appointed captain and has recently returned to the city. He is a member of the staff of the Soldiers' Civil Re-establishment as a nerve specialist.

THE *Manitoba Gazette* announces the appointment of Dr. C. J. Hossack as pathologist for the Selkirk Hospital for the insane.

HONOURABLE DR. ARMSTRONG, minister of municipal affairs, announces that the first hospital district as provided for in the act relating to union hospitals, passed at the last session of the legislature, has been organized at Ericsdale, Manitoba.

THE fourteenth annual meeting of the Alberta Medical Association was held early in September at Calgary. One hundred and fifteen delegates were in attendance. The important subjects for discussion were the operation of the Compensation Act and the Alberta Liquor Act as they affect the medical profession. Dr. Florin, of Edmonton opened the discussion on the Compensation Act, and at the close of his address suggested a sinking fund, stating that he found employees quite willing to be assessed. He urged the association to appoint a committee to meet the full board and try and arrange a schedule that would be favourable to both the doctors and the labouring men. The Lieutenant-Governor, in a brief speech, thought it would be well for the medical men and the compensation board to get together and devise some plan which would be satisfactory to all concerned.

The resolution passed by the association in reference to the liquor act recommended that the whole matter of liquor prescriptions should be taken out of the doctor's hands and administered by the attorney-general's department, and if this was not considered feasible, a return should be made to the original conditions imposed by the act when first passed by the province.

It was decided to promote the formation of a public health association for Alberta, which should hold its meetings in Edmonton in connection with the meetings of the Alberta Medical Association. The following were elected as officers of the health association: Dr. Gershaw, Medicine Hat, president; Dr. Galbraith, Lethbridge, first vice-president; Dr. R. B. Wells, Edmonton, second vice-president; The old system of committees was done away with and in place of it an executive was formed, made up of all the members of the medical council of the province, associated with the last three vice-presidents.

Two other important resolutions were carried at the closing session. The first urged the establishment of a home for incurables in the province. The second asked the government to provide financial assistance for the establishment of a psychopathic department in at least two of the large general hospitals in Alberta, for the admission and treatment of persons suffering from mental breakdown. At the present time there was absolutely no provision

made for the proper treatment of such patients outside the asylum at Ponoka. The government of the province of Manitoba has recently established a department of this kind at the Winnipeg General Hospital.

THE cost of deaths from communicable diseases in Saskatchewan during the year 1917 is estimated at \$1,700,230, according to statistics which have been compiled by the Saskatchewan Bureau of Public Health. The total number of deaths from these diseases that year was seven hundred and six, of which four hundred and forty were adults and two hundred and sixty-six, children. The loss involved by death is placed at a life valuation of \$500 for a child and \$3,000 for an adult, the standard adopted by the life insurance companies. Funeral expenses totalled \$57,300, and the total cost for care of the patients amounted to \$187,380. The value of the lives lost from communicable diseases, on the basis of insurance standards, was \$1,455,500. This total takes no account of loss of time or wages involved, nor does it include overhead charges such as the upkeep of hospitals.

THE Saskatchewan Red Cross is now taking steps to establish peace time medical and nursing services, and outlined its policy which it expressed in six valuable suggestions presented at the recent meeting of the Dominion Red Cross in Winnipeg, all of which were approved. The recommendations of the Canadian Nurses' Association to the headquarters of the Red Cross Society, and the suggestions of the Alberta and Manitoba branches of the Red Cross Society, were carefully read and discussed. It was urged that the provincial branch of the Red Cross Society should offer scholarships, open to girls of matriculation standing, of the sum of \$75 each, to be given during the first year of their training only.

PRESIDENT E. W. BEATTY, of the Canadian Pacific Railway, has given \$10,000 to the Vancouver General Hospital in connection with a campaign now under way to raise by popular subscription a fund to pay off the debt on that institution.

DR. R. H. STORRS has been appointed superintendent of St. Paul's Hospital. Dr. Storrs has lived in Vancouver for the past twelve years as medical inspector for the local offices of the United States immigration service, and was assistant surgeon of the Ameri-

can public health service detailed to Vancouver. Among Vancouver medical men he is regarded as an exceptionally able practitioner.

DR. H. E. YOUNG, superintendent of the Provincial Board of Health, addressed the Anti-Tuberculosis Society on the occasion of their twelfth annual meeting, recently. He spoke of the work already done by the society and said that to solve the problem promptly, tuberculosis should be dealt with as an economic problem, and he urged that efforts be extended to cover all diseases that were possible forerunners of the dread plague, as well as working conditions and food supplies that may also contribute to the spread of the malady. He predicted the coming of state medical centres, with fewer, bigger and better hospitals, training schools for nurses where each would be taught to be a specialist in one line. These centres would become places for people to go to for advice and treatment, and not the last resource when the patient was physically and financially crippled. The chairman of the board read the twelfth annual report, which also embodies the reports of the medical superintendent of the Tranquille sanitarium. In connection with the report, the speaker stated that the sum of \$120,000, necessary to complete improvements, had been promised by the Dominion and provincial governments. Dr. C. H. Vrooman, superintendent of the clinic, concluded the meeting with an illustrated lecture on the work done at the sanitarium.

MEDICAL COLLEGES

THE Medical School of the Western University had recently a very instructive course on laboratory diagnosis by Professor Crane.

AN educational feature which should have far-reaching effects is noted in the sanitorium training which is adopted by the University of Manitoba as a formal part of the training of fifth year students. This new departure commenced with the session of 1919-20. The Manitoba Sanitorium since 1918 gave instruction in the diagnosis and treatment of tuberculosis to young graduates in medicine and senior medical students. About twenty or twenty-five men have been in residence at the sanitorium, usually for from two weeks to a month at least. The Manitoba institution is credited with having been the first on the continent of its kind to give the

opportunity of such instruction, and to have affiliation for this purpose with a university medical school.

MR. IRVING CAMERON, of Toronto University, was one of four nominated as an honorary fellow in the American College of Surgeons at the annual clinical congress in New York.

ARMY MEDICAL SERVICES

DR. W. C. ARNOLD, head of the medical branch for the department of soldier civil re-establishment for Saskatchewan, has been appointed deputy director of medical services for Canada with the department. Colonel Davis, C.M.G., formerly A.D.M.C. for this military district, is the director. Dr. G. L. Hodgins, formerly superintendent of Earl Grey sanitorium, and now lung specialist with the provincial branch of the department, has been temporarily appointed to succeed Dr. Arnold.

LIEUTENANT-COLONEL ROBERT A. BOWIE, M.D., C.M., second in command of the Ontario Military Hospital at Orpington, has been appointed consultant in surgery to Canadian headquarters in London. He was mentioned in despatches for his good work in France with the Canadian Army Medical Corps.

LIEUTENANT-COLONEL DAVID A. CLARK, assistant director of medical services and officer in charge of medical personnel administration of militia headquarters, has been appointed assistant deputy minister of health. Colonel Clark has a splendid record in the war, previous to which he had been a militia officer for twenty years.

MAJOR J. CAMERON WILSON, M.D., since his return from overseas, has been appointed a coroner for London, Ontario, and county of Middlesex.

At the annual meeting of the Women's Auxiliary of the Canadian Army Medical Corps in Toronto, on October 3rd, the report of the treasurer showed receipts amounting to \$1,452 and expenditures \$1,230, leaving a balance on hand of \$221. The report for the whole five years showed \$7,288 received and \$6,239 disbursed. During the five years since it was organized, the Auxiliary has sent overseas 178,655 articles.

A BOARD of medical consultants from military headquarters at Ottawa, consisting of Colonel I. H. Cameron, Lieutenant-Colonel Clarence Starr, and Lieutenant-Colonel H. C. Parsons, have been recently investigating the case of each patient in the New Brunswick Military Hospital, with a view to closing the hospital if the summing up of the situation will warrant such a decision. There are at present one hundred and nine cases there. On the closing of the hospital the building will be taken over by the Department of Soldiers' Civil Re-establishment.

Appointments:

Major Harry James Shields is posted for duty under the A.D.M.S., military district No. 2, as part time medical officer.

Major Percy James Sandys Bird is posted for duty under the A.D.M.S., military district No. 4.

Quartermaster and Honorary Lieutenant Albert Price Disley is posted for duty under the A.D.M.S., military district No. 2.

Major George Patrick Howbett is posted for duty under the A.D.M.S., military district No. 3.

Captain Charles Smith Henderson is posted for duty under the A.D.M.S., military district No. 6.

Captain Harry Knight Mitchell is posted for duty under the A.D.M.S., military district No. 10.

Major Darrell Porters Hannington is posted for duty under the A.D.M.S., military district No. 11.

Captain Robert Kells Johnston is posted for duty under the A.D.M.S., military district No. 3.

Captain Roswell Cameron Lyon is posted for duty under the A.D.M.S., military district No. 3.

Captain Sydney James Wood Horne is posted for duty under the A.D.M.S., military district No. 3.

Captain Oscar Glennie Donovan is posted for duty under the A.D.M.S., military district No. 6.

Captain James Walters Harper, C.A.M.C., is posted for duty under the A.D.M.S., military district No. 10.

Captain Phillip Doane McLaren is posted for duty under the A.D.M.S., military district No. 6.

Captain Herbert Charles Allison is posted for duty under the A.D.M.S., military district No. 1.

Captain Allan Martindale Yates, is posted for duty under the A.D.M.S., military district No. 1, and is granted the rank of Major whilst employed with effect from July 24th, 1919.

Acting Major Joseph William Hunt is posted for duty under the A.D.M.S., military district No. 2.

Captain Douglas Wallace is posted for duty under the A.D.M.S., military district No. 10, vice Captain R. B. Jenkins, October 5th, 1919

Quartermaster and Honorary Captain Arthur William Holmes is posted for duty under the A.D.M.S., D.G.M.S. Militia Headquarters, Ottawa, October 10th, 1919.

Captain Harold Ewing Preston is detailed for duty under the Director of Internment operations as medical officer in charge of party of insane prisoners of war being repatriated to Germany, October 25th, 1919.

Captain Morley Edward Gorman is detailed for special duty in the Directorate of the D.G.M.S. Militia Headquarters, Ottawa, October 16th, 1919.

Major John Phillip Selby Cathcart, M.C., is detailed for duty under the A.D.M.S., military district No. 2, October 6th, 1919.

Promotions.

The undermentioned Temporary Lieutenant-Colonels (acting Colonels to be Colonels):

C. P. Templeton, D.S.O., January 18th, 1919; E. L. Stone, August 1st, 1919; J. S. Jenkins, D.S.O., January 15th, 1919; C. Hunter, January 15th, 1919; W. T. Lochart, August, 1st 1919; C. E. F. Haszard, August 1st, 1919.

The undermentioned Temporary Captains (acting Majors to be Temporary Majors):

H. W. Wadge, M.C., January 15th, 1919; P. J. S. Bird, July 30th, 1919; J. D. Jones, August 1st, 1919; J. S. Fitzsimons, August 1st; J. W. Hunt, August 1st, 1919; A. B. Wilks, August 21st, 1919.

The undermentioned temporary Captains (acting Majors to be temporary Majors):

D. S. Morin, June 2nd, 1919; S. Sprague, August 9th, 1919; G. O. Scott, August 23rd, 1919

Temporary Major (acting) Lieutenant-Colonel F. E. Watts to be Lieutenant-Colonel, July 29th, 1919.

Temporary Captain A. N. Aitken relinquishes the acting rank of Major, August 23rd, 1919.

Temporary Major (acting Lieutenant-Colonel) L. H. McKim, relinquishes the acting rank of Lieutenant-Colonel June 25th, 1919.

Temporary Captain E. F. Risdon to be acting Major whilst employed as Officer-in-charge Canadian Section of Plastic Surgery, May 2nd, 1919.

Book Reviews

A TREATISE ON ORTHOPÆDIC SURGERY. By ROYAL WHITMAN, M.D., M.R.C.S., F.A.C.S., a director of military orthopædic teaching. Sixth edition, thoroughly revised; 916 pages, with illustrations. Price, \$7.00. Publishers: Lea & Febiger, Philadelphia and New York, 1919.

Dr. Whitman's work on its first appearance established for itself a leading place in orthopædic literature, and it can be said that the present edition, which is the sixth, appearing in 1919, fully maintains the high reputation of the author. It is the most recent and in many respects the best book both for the student and the practitioner that we know of, and the modern orthopædist will find in it a great deal of value. The bibliographical references are particularly full and indicate a wide range of reading. Dr. Whitman adds to this edition a very valuable chapter on military orthopædic surgery which gives a good account of the newer work in this department. As he says: Orthopædic surgery has long since outgrown the limits suggested by its definition or by its practice in former times, and now includes many of the subjects which were previously considered to belong to the department of general surgery, such as in particular nerve injuries and amputations. There is no doubt that this overlapping of authority has resulted in substantial progress, and the general surgeon has certainly no grounds of complaint. It is again a question of "tools to the man who can use them". After all, the interests of the wounded soldier are paramount, and the general surgeon is as a rule not fully qualified to give the best service in the difficult problems concerned with the complete treatment of stiff joints, paralyzed muscles, and the fitting of prosthetic appliances. This chapter on military orthopædic surgery gives in detail the practice adopted in the manual of military orthopædic surgery adopted by the United States Army. It also takes up the cinematoplastie amputations of Putti and also the surgery of peripheral nerve injuries, and gives many useful diagrams. He goes on to discuss briefly reconstructive treatment. The book is characterized throughout by the evidence of the author's very extensive experience as well as by that of a close study of the literature.

E. A.

ELEMENTARY BACTERIOLOGY AND PROTOZOLOGY. For the Use of Nurses. By HERBERT FOX, M.D., director of the William Pepper Laboratory of Clinical Medicine in the University of Pennsylvania. Third edition, thoroughly revised; 222 pages with illustrations. Price, \$1.75. Publishers: Lea & Febiger, Philadelphia and New York, 1919.

This is a very well written and equally well illustrated handbook of bacteriology. If the nurse knows the rest of her work as thoroughly as she ought to know bacteriology after reading this book, she will be a very well informed person indeed. We wish the book all success.

CHRONIC TRAUMATIC OSTEOMYELITIS, ITS PATHOLOGY AND TREATMENT. By J. RENFREW WHITE, M.B., F.R.C.S., formerly resident surgical officer, Roy National Orthopædic Hospital, London. 144 pages, with illustrations. Price, 12/6 net. Publishers: H. K. Lewis & Co., 136 Gower Street, London, W.C. 1, 1919.

This is a good example of a monograph on an important subject by a specialist for specialists. No doubt the war taught Mr. White a great deal of what he deals with so clearly and concisely. If it is Mr. White's first book, he is to be congratulated on his appearance in medical literature. We hope the book will have a wide circulation.

APPLIED ANATOMY AND KINESIOLOGY. By WILBUR PARDON BOWEN, M.S., professor of physical education, Michigan State Normal College, Ypsilanti. Second edition, thoroughly revised, 334 pages. Illustrated with 197 engravings. Price, \$3.50. Publishers: Lea & Febiger, 706 Sansom Street, Philadelphia, 1919.

This book contains a very clear exposition of the anatomy, physiology and physics of muscular action, not only such as is employed in "gymnastics" but in such an involuntary action as ordinary breathing. The illustrations could not be better. "Team work" is too colloquial an Americanism for "co-ordination" in so dignified a treatise; it would not be understood in some quite intelligent communities.

THE INTENSIVE TREATMENT OF SYPHILIS AND LOCOMOTOR ATAXIA BY AACHEN METHODS (with notes on Salvarsan). By REGINALD HAYES, M.R.C.S. Third edition, revised, 92 pages. Price, 4/6 net. Publishers: Baillière, Tindall & Cox, 8 Henrietta Street London.

Although a small book, this is an important book. That it has reached its third edition in the four years since 1916 proves that medical men have found it useful. It deals in a practical and direct method with the treatment of those special worries of the neurologist, cerebral syphilis, general paralysis of the insane, spinal syphilis and locomotor ataxia. It will communicate many rays of hope in certain directions which hitherto have been dark indeed.

THE PRACTICAL MEDICINE SERIES. VOLUME I, GENERAL MEDICINE. Edited by FRANK BILLINGS, M.S., M.D., head of the medical department, and dean of the Faculty of Rush Medical College, Chicago. Series 1919. Price, \$2.50. Publishers: The Year Book Publishers, 304 S. Dearborn Street, Chicago.

There should be a demand for the books in this series, owing to the large number of returned officers who will want to find out what has been going on while they have been away. This volume is excellent for getting an idea of the newer work. Its great use should be to stimulate further reading, as it does not pretend to give more than a brief reference to the different phases of the subjects treated.

THE PRINCIPLES OF NURSING. By CHARLOTTE A. BROWN, R.N., superintendent of nurses in the New England Hospital for Women and Children. 261 pages. Illustrated. Price, \$1.75. Publishers: Lea & Febiger, 706 Sansom Street, Philadelphia, 1919.

This book has a great deal of information carefully arranged in a very concise form. It would be very useful for nurses who are preparing for examinations and where the main issue is to secure a pass, but it is not complete enough to be used as the only textbook on this subject in a first class training school. The type and printing are up to the usual high standard set by this publishing firm.

A. B. C.

PRACTICAL BACTERIOLOGY, BLOOD WORK AND ANIMAL PARASITOLOGY, including Bacteriological Keys, Zoological Tables and Explanatory Clinical Notes. By E. R. STITT, A.B., PH.G., M.D., medical director, U. S. Navy. Fifth edition, revised and enlarged. 559 pages, with illustrations. Price, \$2.50 net. Publishers: P. Blackiston Son & Co., 1012 Walnut Street, Philadelphia, 1919.

This is a good book. Its contents might be expanded to fill many volumes and find expression less clear. Its conciseness and general plan are admirable. The methodical arrangement of material and the definite statement of classification of pathogenic organisms will be gratefully read by students and practitioners alike. These features, no less than the clear and definite exposition of laboratory methods, make this practical book on Bacteriology, Blood Work and Animal Parasitology a true handbook. Those whose work brings them to laboratories, especially to laboratories where tropical and sub-tropical diseases are not unknown, can have under their hand no book that is better than this.

If the book has a fault, perhaps it may be found through the effort to incorporate the latest advances in knowledge; in some instances that effort has permitted certain minor points as yet incompletely established to be stated as though they were definitely acknowledged facts.

J. L. T.

Medical Societies

THE DISTRICT MEETING OF THE COUNTIES OF PETERBORO, VICTORIA, NORTHUMBERLAND AND DURHAM, HASTINGS, PRINCE EDWARD, AND LENNOX AND ADDINGTON

THE meeting was held in the Hotel Quinte, Belleville, on September 17th, 1919. The chair was taken by Dr. Farncomb, Trenton, the representative of the district in the Ontario Medical Council, and the success of the meeting was due in a large measure to his untiring efforts. All the counties included in the district were well represented, with the exception of Victoria.

Dr. Gibson, the nestor of the profession in Belleville district, gave an admirable paper on the treatment of simple fractures.

Dr. Third, Kingston, gave a clinical demonstration on the methods of examination of the heart, the lungs and the nervous system. He laid particular stress on the value of the exercise tests in heart cases, and the necessity for estimating the cardiac disability rather from the condition of the myocardium than from that of the valves. He explained the cardio-respiratory murmur and the Graham Steell murmur—both of which he had examples—and pointed out their prognostic significances.

He demonstrated his method of examining a suspected case of pulmonary tuberculosis, laying special stress on inspection and auscultation. The coarse reddish-brown hair was often suggestive. Next he advised looking for enlarged cervical glands—the tissues of all others, most sensitive to tuberculous infection. Coming to the chest, depression should be noted, also lagging of one or other apex on deep inspiration. A provisional diagnosis that would prove correct in 75 per cent. of the cases could be made from inspection alone. The presence of localized moist post-tussive râles, in the areas of predilection, practically clinched the diagnosis, no matter whether tubercle bacilli were found in the sputum or not.

The last case shown was one of ataxic paraplegia, the right leg giving the symptoms of a lateral pyramidal tract lesion—increased knee jerk, ankle clonus and extensor plantar response—while the left showed those of a lesion of the posterior columns. The gait was quite ataxic.

Doctors Faulkner and Tennant, Belleville, were thanked for bringing together such an interesting collection of cases for the clinic.

Dr. F. M. McCullough, Peterborough, prepared a paper on "Hæmorrhage in the New-born", which was read by Dr. Cameron Stewart in the unavoidable absence of the author. Dr. McCullough differentiated the various forms of melæna, and dealing especially with true melæna, spoke of the theories of its origin and laid stress on the brilliant results obtained by the use of serum and citrated mother's blood even when injected subcutaneously, but advocated the intravenous method in all severe cases.

Dr. D. S. Lighthall, Picton, gave a carefully prepared paper on pneumonia, and judging from the amount of discussion, it was one of the most interesting of the series.

Dr. W. W. McKinley, Port Hope, dealt with the "Tariff of Fees" in a most convincing address. Notwithstanding the in-

creased cost of living, of medical and surgical supplies, of car upkeep, etc., the medical fees in the district had advanced very little in the past twenty years. He contrasted the capital invested by the mechanic and the physician, the working hours of each and their net income, and lastly the selfishness of labour unions with the altruism of the medical profession. No class had done so much to improve the condition of labour as the medical profession. Working, not forty-four hours a week, but more often one hundred and sixty-eight in charitable institutions and homes to relieve suffering and prolong life, not asking whether the afflicted belonged to a union or not, and aiming at all times to improve the sanitary conditions of the factory, the workshop, the school, etc., the physician had ever kept to the simple path of duty, notwithstanding the unjust and unwarranted demands of labour. The situation had become simple intolerable. The profession must unite, and if needs be, give labour some of her own medicine.

After an excellent dinner at the Quinte, provided through the kindness of the Hastings branch, Dr. F. W. Marlow, Toronto, president of the Ontario Medical Association, gave an address on "Pelvic Inflammation", reviewing the whole subject in a delightfully lucid and masterly way. At the suggestion of several members, the address will be published in the near future, and distributed to those present at the meeting.

There were some features of this meeting that call for special comment. The attendance was large and representative. The discussion was general and was more of the nature of a "heart to heart" talk than that usually observed at the larger gatherings. Men from hamlet and town brought their everyday difficulties and laid them on the table and these were discussed freely, and in many cases, ably.

ONTARIO MEDICAL ASSOCIATION

REPORT of meeting of the Executive, held in the Academy of Medicine, Toronto, on Wednesday, September 24th, 1919.

At this meeting of the Executive, many matters of interest to the medical profession in Ontario were discussed and arranged.

Pursuant to instructions laid down at the last annual meeting of the Association, the Executive divided the Province of Ontario into ten Counsellor districts. This step was deemed advisable in order that each Counsellor might have a territory which would

enable him to render the best service to the profession in general and the Association in particular.

The following is a list of the Executive as now constituted:

President, Dr. F. W. Marlow, Toronto; first vice-president, Dr. J. H. Mullin, Hamilton; second vice-president, D. J. H. Farley, Trenton; honorary treasurer, Dr. G. Stewart Cameron, Peterboro; Hon. secretary, Dr. T. C. Routley, Toronto; Dr. J. A. Macgregor, London; Dr. E. R. Secord, Brantford; Dr. George S. Burt, Owen Sound; Dr. J. P. Morton, Hamilton; Dr. F. A. Clarkson, Toronto; Dr. T. S. Farncomb, Trenton; Dr. H. A. Boyce, Kingston; Dr. Fenton Argue, Ottawa; Dr. Edgar Brandon, North Bay; Dr. E. B. Oliver, Fort William.

It was also decided at this meeting that the fortieth annual meeting of the Ontario Medical Association would be held in Toronto on May 26th, 27th and 28th, with the Committee on General Purposes meeting on May 25th.

With regard to University Post-Graduate Extension Courses, it was decided to advise the committee in charge of this department to at once get into communication with the various medical faculties and the profession at large, in order that good may accrue to the profession. Members of the profession have already been selected to address district and county society meetings, and it is hoped that in the very near future a bureau will be established in the secretary's office which may be utilized by all local societies desiring the services of outside men to address them.

At an early date, each county and local society will receive definite instructions, accompanied by an application form for affiliation with the Ontario Medical Association, and it is particularly hoped that every society will give this important matter the attention which it deserves.

In order that the profession may be kept properly informed as to the activities of the Ontario Medical Association and the work of its Executive during the year, it was decided to have the report of the last business meeting of the Association printed for distribution to the county societies, and also to have synopses of the points of interest decided at Executive meetings forwarded to the various medical journals for publication.

FROM PUBERTY TO MENOPAUSE

THROUGH this period most women suffer from uterine neurosis, and as Godell so aptly describes it, "the intangible, imponderable, invisible pelvic pains of neurotic women."

Anticipated monthly attacks of Dysmenorrhea, the exhausting effects of Menorrhagia, and the nervous symptoms of early

pregnancy call for the administration of **HAYDEN'S VIBURNUM COMPOUND**, presenting its well-known antispasmodic and calmative action as a preventive and as a treatment in neurosis.

It should be given in teaspoonful doses, three times a day, administered in hot water. Literature, formula and samples upon request.

HVC

**NEW YORK PHARMACEUTICAL COMPANY
BEDFORD SPRINGS, BEDFORD, MASS.**

Diphtheria—Permanent Immunity

DIPHTHERIA TOXIN-ANTITOXIN MIXTURE confers permanent immunity against diphtheria. This immunity is established after 8 to 12 weeks. All children from 6 months to 5 years of age, as well as those adults whose duties constantly bring them in contact with diphtheria, should be immunized if they react positively to the Schick Test. DIPHTHERIA TOXIN-ANTITOXIN MIXTURE offers the medical profession a means of absolutely eliminating diphtheria from every community; a result not heretofore possible:

When used *early* in the disease, DIPHTHERIA ANTITOXIN has reduced the mortality to about 2%. In the days before DIPHTHERIA ANTITOXIN, the mortality was 33%.

Diphtheria Toxin-Antitoxin Mixture

Package of 3 vials (one immunization).....\$1.00

Schick Test

Package of 10 tests; Lederle outfit50

Diphtheria Antitoxin

1,000 Units (prophylactic dose) in syringe.....	.75
5,000 Units (therapeutic dose) " " "	3.00
10,000 Units " " " "	5.00
20,000 Units " " " "	9.00

Requests for further information are invited

Lederle Antitoxin Laboratories

511 Fifth Avenue, New York City

464 St. Catherine St. W., MONTREAL	265 Portage Ave., WINNIPEG			
Chicago	Kansas City	New Orleans	San Francisco	Buenos Aires



High in Protein Content and Easily Digested

Borden's Eagle Brand combines the proteins, fats, carbohydrates and mineral salts of pure milk and sugar.

These ingredients are condensed together in definite proportions, at a very low heat, under rigid sanitary conditions and retain all their nourishing, energy-producing qualities in a form that makes them easily digested and readily assimilated.

Borden's Eagle Brand can be prescribed with perfect assurance of its uniform purity and excellence either as a complete food for infants or as an ingredient that increases the palatability and body-building efficiency of other foods.

Samples, analysis and literature
on request.

Borden Milk Company, Limited

Borden's
EAGLE BRAND

Widest Choice of Raw Materials

The Nujol Laboratories of the Standard Oil Company (New Jersey) are not restricted to one—or even several—producing centres for their raw materials. They have foreign connections that make available for Nujol the choice of the finest crudes the world produces.

In addition, **Nujol** is produced in modern, clean, well-ventilated, laboratories where the strictest sanitary regulations prevail. Every possible device is used for maintaining absolute cleanliness in the production of

Nujol

REG. U.S. PAT. OFF.

For Constipation

The viscosity of Nujol is correct—determined by extensive clinical test and observation. Every consistency from watery fluid to a jelly has been made and tested.

Sample and authoritative literature dealing with the general and special uses of Nujol will be sent gratis. See coupon below.

Nujol Laboratories
STANDARD OIL CO. (NEW JERSEY)
50 Broadway, New York

Chas. Gyde & Son.



Please send sample of Nujol
and also booklet marked

- "In General Practice"
- "In Women and Children"
- "A Surgical Assistant"

Name.....

The Members

Of the CANADIAN MEDICAL ASSOCIATION are requested in writing to Advertisers to mention THE CANADIAN MEDICAL ASSOCIATION JOURNAL. By doing this the better class of Advertisers will more fully recognize the Journal as a high class advertising medium.



THE LINDMAN TRUSS

Endorsed and recommended by the Medical Profession wherever known.

Write for Particulars

B. LINDMAN, Reg'd.
6a McGill College Ave. - MONTREAL

FOR RELIEVING PAIN

there is no remedy more serviceable, effective and safe than



No matter how severe or where located, pain is promptly and satisfactorily controlled by this dependable anodyne—and without disturbing the digestion, suppressing the secretions, causing constipation or inducing a drug habit.

This is why Phenalgin has largely supplanted opium and other habit-forming drugs for relieving Headaches, Rheumatism, Gout, LaGrippe, Lumbago, Neuralgia, Disorders of the Female, Dysmenorrhea, and Painful Conditions generally.



Thousands of physicians have been using Phenalgin in place of any other analgesic for a quarter of a century. Phenalgin does not require Harrison narcotic blanks or special record.

Phenalgin is sold in 1 ounce bottles containing either powder, 5 grain tablets or Pink Top Capsules.

Samples on request

THE ETNA CHEMICAL CO.
59 Bank Street New York

Sal Hepatica

THE STANDARD SALINE LAXATIVE

Samples on request

Bristol-Myers Co.
New York



DOCTOR WANTED

WANTED. A Doctor for Sidney, Manitoba district. Large territory, big opportunities for right man. Only energetic man need apply. Apply to

ERNEST E. ROBINSON,
Sidney, Man.

McGill University Faculty of Medicine - - - - Montreal

Five years' course leading to the degree of M.D., C.M.
Splendid new laboratories with increased equipment.
Excellent hospital facilities for bedside study.

DENTAL COURSE also provided, with new laboratories and large clinic.
Degree of D.D.S. granted at end of four years.

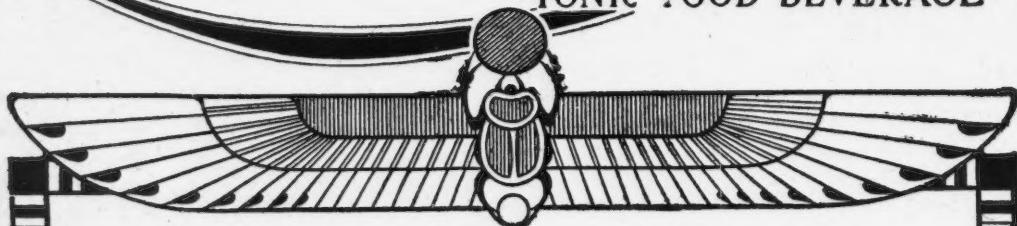
Course for DIPLOMA of PUBLIC HEALTH.

MATRICULATION examinations June and September. Provincial Medical Board examinations accepted.

Apply to H. S. BIRKETT, M.D., Dean, or JNO. W. SCANE, M.D., Registrar

OVALTINE

TONIC FOOD BEVERAGE



DIET IN DISEASE

IN acute disease, where the digestive functions are impaired and excessive nitrogenous metabolism necessitate easily assimilated nourishment, "Ovaltine" will be found of great value.

"Ovaltine" is composed of a highly concentrated extract of the vitalising and building-up properties contained in Malt, Milk and Eggs, and presents the essential elements of diet in well-balanced proportions. It forms a natural anabolic for administration in debilitated conditions where tissue waste has to be restored with a minimum of digestive strain.

SUPPLIED BY ALL DRUGGISTS.
SPECIALLY LOW PRICES ARE
QUOTED TO HOSPITALS AND
KINDRED INSTITUTIONS ON DIRECT
APPLICATION TO TORONTO OFFICE.

A. WANDER Ltd., LONDON, ENGLAND.

—Works: King's Langley, Eng.—

TORONTO: 27, FRONT STREET EAST (Main 4707).

C.M. 5.





REST ASSURED —

When the physician employs Antiphlogistine as the local adjuvant in treating pneumonia, he assists the patient to exactly what he absolutely requires — **EASE** and **REST**.

Antiphlogistine
TRADE MARK

by inducing **SLEEP** gives to nature that assistance which is often sufficient to carry the patient safely and comfortably over the crisis.

THE DENVER CHEMICAL MANUFACTURING COMPANY
MONTREAL

The Canadian Medical Association

Place of Meeting, 1920—Vancouver.

Honorary President—Sir Thomas Roddick, Montreal.

President—S. Grondin, Quebec.

President-elect—R. E. McKechnie, Vancouver.

Vice-Presidents *ex-officio*—Presidents of Affiliated Provincial Societies.

Acting Secretary-Treasurer—J. W. Scane, 836 University St., Montreal.

Chairman of Editorial Board—A. D. Blackader.

Acting Editor—Maude E. Abbott.

Offices: 836 University St., Montreal.

SUB-EDITORIAL COMMITTEES APPOINTED BY PROVINCIAL ASSOCIATIONS

Alberta—T. H. Whitelaw, Edmonton; A. Fisher, Calgary.

Manitoba—Dr. J. Halpenny; Dr. W. Boyd, Winnipeg.

New Brunswick—G. G. Melvin, St. John; G. C. VanWart, Fredericton.

Ontario—Dr. James Third, Kingston; Dr. P. McC. Brown, Camlachie; Dr. C. S. McVicar, 300 Roncesvalles Ave., Toronto.

EXECUTIVE COUNCIL

ASSOCIATION'S MEMBERS

W. W. Chipman, Montreal.

G. G. Campbell, Montreal.

J. Halpenny, Winnipeg.

Harry Morell, Regina.

W. G. M. Byers, Montreal.

M. R. Blake, Winnipeg.

F. G. Finley, Montreal.

W. Arbuckle, Vernon, B.C.

John Stewart, Halifax.

G. Pinnault, Campbellton, N.B.

C. Starr, Toronto.

H. A. Farris, St. John.

James Third, Kingston.

A. Vallée, Quebec.

E. St. Jacques, Montreal.

REPRESENTATIVES FROM AFFILIATED ASSOCIATIONS

Alberta—D. G. Revell, *ex-officio*, Edgar W. Allan, Edmonton; G. E. Learmonth, High River.

British Columbia—I. Glen Campbell, *ex-officio*, A. S. Monro, G. S. Gordon, Vancouver.

Manitoba—Daniel G. Ross, *ex-officio*, Selkirk; James McKenty, Winnipeg.

New Brunswick—G. G. Melvin, *ex-officio*, St. John; C. J. Venoit, Bathurst; G. C. VanWart, Fredericton.

Nova Scotia—John Stewart, *ex-officio*; K. A. MacKenzie, Halifax; J. K. McLeod Sherwood, Sydney.

Ontario—F. W. Marlow, *ex-officio*, Toronto; G. S. Cameron, Peterborough; J. P. Morton, J. H. Mullin, Hamilton.

Saskatchewan—J. A. Valens, *ex-officio*; P. D. Stewart, Saskatoon; F. W. Hart, Indian Head.

FINANCE COMMITTEE

G. S. Cameron, Peterborough.

F. G. Finley, Montreal.

W. W. Chipman, Montreal.

S. Grondin, Quebec.

E. St. Jacques, Montreal.

W. G. M. Byers, Montreal.

G. G. Campbell, Montreal.

STANDING COMMITTEES

ON MEDICAL LEGISLATION

D. J. Gibb Wishart, Toronto, Chairman
(with power to add)

ON AMENDMENTS TO CONSTITUTION AND BY-LAWS

H. B. Small, Ottawa, Chairman
(with power to add)

PUBLIC HEALTH AND HYGIENE

G. G. Melvin, St. John, Chairman
(with power to add)

ON NECROLOGY

W. G. Stewart, Montreal, Chairman
(with power to add)

ON RESOLUTIONS

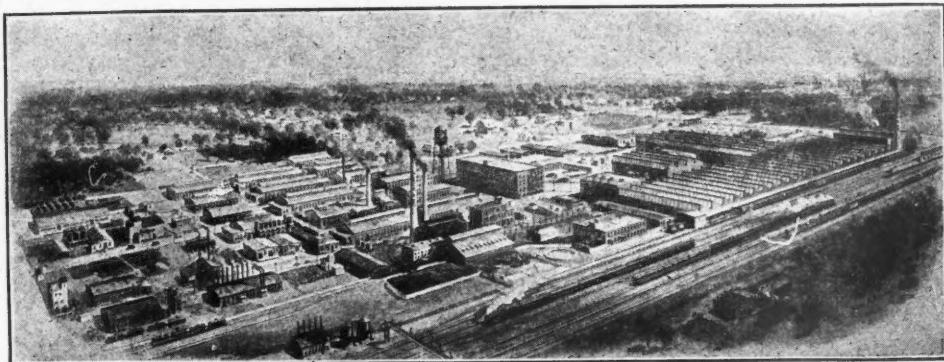
J. Halpenny, Winnipeg, Chairman
(with power to add)

ON MEDICAL EDUCATION

James Third, Kingston, Chairman
(with power to add)



"You can depend on Merck's Rx Chemicals"



Chemical Works at RAHWAY, New Jersey, U.S.A.

MERCK & CO.

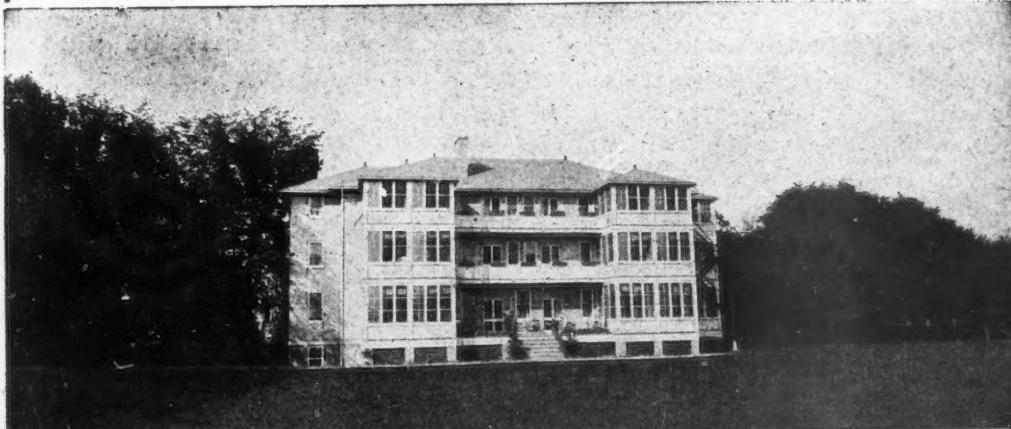
NEW YORK

MONTREAL

ST. LOUIS

CALYDOR SANATORIUM

on Lake Muskoka



Southwest Front Overlooking the Lake

This new building with its excellent equipment offers every comfort and convenience for patients and every facility for the study and treatment of tuberculosis.
Private sleeping porches. Elevator. Complete Laboratory and X-ray room.
Trained Nurses. Graduate Dietitian.

D. W. CROMBIE, M.D., C.M., Resident Physician

Miss K. ZIMMERMAN, Superintendent

C. D. PARFITT, M.D., C.M., M.R.C.S., Medical Director

Ontario

GRAVENHURST

Canada

**To
BUILD
UP**
**To
BRACE
UP**
**To
TONE
UP**

Supplied in 11-ounce bottles
only—never in bulk.

Samples and literature sent upon
request.

Prescribe original bottle to avoid
substitution.

In ANY form of DEVITALIZATION
prescribe

Pepto-Mangan (Gude)

Especially useful in

ANEMIA of All Varieties:
CHLOROSIS: AMENORRHEA:
BRIGHT'S DISEASE: CHOREA:
TUBERCULOSIS: RICKETS:
RHEUMATISM: MALARIA:
MALNUTRITION: CONVALESCENCE:
As a GENERAL SYSTEMIC TONIC
After LA GRIPPE, TYPHOID, Etc.

DOSE: One tablespoonful after each meal.
Children in proportion.

M. J. BREITENBACH COMPANY
New York, U. S. A.

Our Bacteriological Wall Chart or our Differential Diagnosis Chart will be sent to any Physician upon request.
LEEMING-MILES CO. LTD., Montreal, Can. Agents

The Storm Binder and Abdominal Supporter

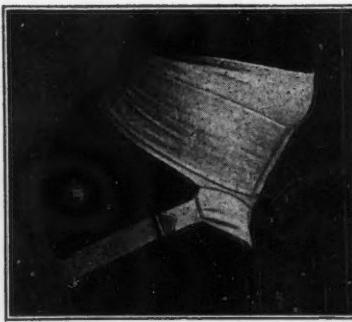
PATENTED

Adapted to Use of Men, Women and Children and Babies

For High and Low Operations, Ptoses, Hernia, Obesity,
Pregnancy, Floating Kidney, Relaxed Sacro-Iliac
Articulations, Pertussis, Etc.



Special Kidney Belt



No Whalebones
No Rubber Elastic
Washable as underwear



Inguinal Hernia Modification

Send for new folder and testimonials of physicians. General mail orders filled
at Philadelphia only—within twenty-four hours

KATHERINE I. STORM, M.D., 1541 Diamond St., PHILADELPHIA

Medical Societies

CANADIAN MEDICAL ASSOCIATION:—President—Dr. S. Grondin, Quebec. President-elect—Dr. R. E. McKechnie, Vancouver. Acting Secretary-treasurer—Dr. J. W. Scane, 836 University Street, Montreal.

ACADEMY OF MEDICINE, TORONTO:—President—Dr. E. E. King. Secretary—Dr. F. C. Harrison. Treasurer—Dr. J. H. McConnell.

ALBERTA MEDICAL ASSOCIATION:—President—Dr. G. A. Anderson, Calgary. Secretary-treasurer—Dr. A. Fisher, Calgary.
Annual Meeting, Calgary, 1919.

ASSOCIATION OF MEDICAL OFFICERS OF THE MILITIA:—President—Lt.-Colonel A. T. Shillington, A.M.C., Ottawa. Secretary—Captain T. H. Leggett, A.M.C., Ottawa.

ASSOCIATION OF MEDICAL OFFICERS OF NOVA SCOTIA:—President—Dr. George E. DeWitt, Wolfville. Secretary—Dr. W. H. Hattie, Halifax.

BRANT COUNTY MEDICAL SOCIETY:—President—Dr. E. R. Secord, Brantford. Secretary—Dr. M. N. Faris.

BRITISH COLUMBIA MEDICAL ASSOCIATION:—President—Dr. I. Glen Campbell, Vancouver. Secretary—Dr. H. W. Riggs, Vancouver.

CALGARY MEDICAL ASSOCIATION:—President—Dr. W. J. Shipley. Secretary—Dr. J. V. Follett. Treasurer—Dr. W. Hackey.

CANADIAN ASSOCIATION FOR THE PREVENTION OF TUBERCULOSIS:—President—Dr. J. A. Machado, Ottawa. Secretary—Dr. George D. Porter, Ottawa.

CANADIAN HOSPITAL ASSOCIATION:—President—Dr. H. A. Boyce, Belleville. Secretary—Dr. J. M. E. Brown, Toronto.

CANADIAN PUBLIC HEALTH ASSOCIATION:—President—Dr. J. W. Hattie, Halifax, Nova Scotia. Secretary—Dr. R. D. Defries, Toronto.

CENTRAL SOUTHERN ALBERTA MEDICAL SOCIETY:—President—Dr. J. S. Murray, Okotoks. Secretary-treasurer—Dr. G. E. Learmonth, High River.

COLCHESTER-HANTS MEDICAL SOCIETY:—President—Dr. J. W. T. Patton, Truro. Secretary—Dr. H. V. Kent, Truro.

DUFFERIN MEDICAL SOCIETY:—President—Dr. Rooney, Orangeville. Secretary—Dr. Smith, Shelburne.

EDMONTON ACADEMY OF MEDICINE:—President—Dr. J. A. McPherson. Secretary-treasurer—Dr. T. H. Prust. Library, Civic Block.

ELGIN COUNTY MEDICAL ASSOCIATION:—President—Dr. F. F. McEwen, Aylmer. Secretary-treasurer—W. F. Cornett, St. Thomas.

FRASER VALLEY MEDICAL SOCIETY:—President—Dr. De Wolfe Smith. Secretary—Dr. D. F. Carswell.

GUELPH MEDICAL ASSOCIATION:—President—A. T. Hobbs. Secretary—J. Lindsay.

HALDIMAND COUNTY MEDICAL ASSOCIATION:—President—Dr. Hopkins, Dunnville. Secretary—Dr. Courley, Cayuga, Ont.

HALIFAX MEDICAL SOCIETY:—President—Dr. John Cameron. Secretary-treasurer—Dr. Hugh Schwartz.

HAMILTON MEDICAL SOCIETY:—President—Dr. R. Y. Parry. Corresponding Secretary—Dr. Fred Harper. Treasurer—Dr. T. W. Blanchard.

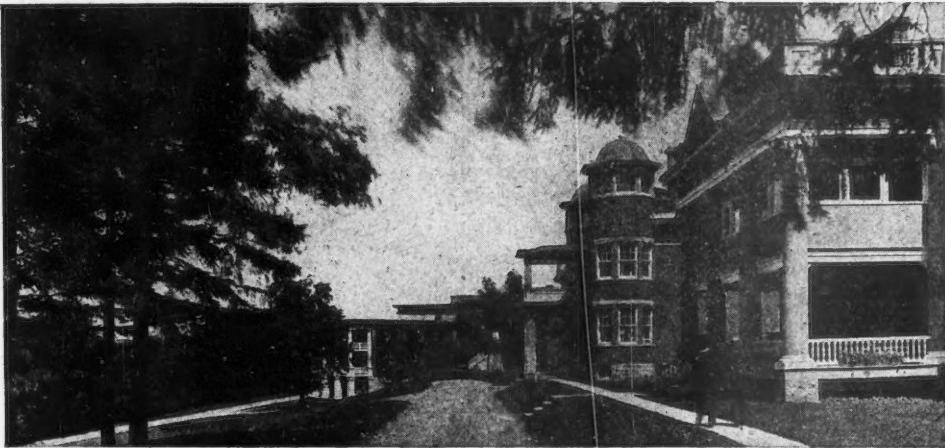
HURON MEDICAL ASSOCIATION:—President—Dr. Machell. Secretary—Dr. Hunter, Goderich, Ont.

KINGSTON AND FRONTENAC MEDICAL SOCIETY:—President—Dr. H. A. Boyce. Treasurer—Dr. H. E. Day, Secretary—Dr. W. T. Connell, Kingston.

LAMBTON COUNTY MEDICAL ASSOCIATION:—President—Dr. J. E. Kidd, Wyoming. Secretary-treasurer—Dr. A. R. McMillan, Sarnia.

Medical Societies—Continued

- LEEDS AND GRENVILLE MEDICAL SOCIETY:—President—Dr. Featherston, Prescott. Secretary-treasurer—Dr. G. C. Kidd, Brockville.
- LONDON MEDICAL ASSOCIATION:—President—Dr. E. Spence. Secretary-treasurer—Dr. C. A. Harris.
- LUNENBURG-QUEEN'S MEDICAL SOCIETY:—President—Dr. J. W. Smith, Liverpool. Secretary—Dr. L. T. W. Penney, Lunenburg.
- MANITOBA MEDICAL ASSOCIATION:—President—Dr. G. D. Shortreed, Grandview. Secretary—Dr. Hugh MacKay, 220 McIntyre Blk., Winnipeg. Treasurer—T. Glen Hamilton, Winnipeg.
- MEDICAL OFFICERS OF HEALTH FOR COUNTIES OF LINCOLN AND WELLAND:—President—Dr. King, St. Catharines. Secretary-treasurer—Dr. Howell, Welland.
- MEDICAL SOCIETY OF NOVA SCOTIA:—President—John Stewart, Halifax. Secretary-treasurer—J. G. D. Campbell, Halifax. Annual Meeting, Kentville, 1920.
- MEDICINE HAT MEDICAL SOCIETY:—President—Dr. W. H. Macdonald. Vice-President—Dr. C. E. Smyth. Secretary-treasurer—Dr. J. S. Macleod.
- MIDDLESEX COUNTY MEDICAL ASSOCIATION:—President—Dr. A. S. Thompson, Strathroy, Ontario. Secretary-Treasurer—Dr. W. H. Woods, Mount Bridges, Ontario.
- MONTREAL MEDICO-CHIRURGICAL SOCIETY:—President—Dr. W. G. Reilly. Secretary—S. H. McKee. Treasurer—Dr. D. Grant Campbell.
- MOOSE JAW MEDICAL SOCIETY:—President—Dr. J. M. Hourigan. Secretary-treasurer—Dr. J. Bloomer.
- NEW BRUNSWICK MEDICAL SOCIETY:—President—Dr. G. G. Melvin, Fredericton. Secretary—Dr. C. J. Venoit, Bathurst. Treasurer—Dr. J. D. Lawson, St. Stephen.
- NORTH-WESTERN MANITOBA MEDICAL ASSOCIATION:—President, Dr. F. A. Smith, Birtle. Secretary-treasurer—Dr. Tisdale, Kenton.
- NORTH WATERLOO MEDICAL ASSOCIATION:—President—Dr. F. H. Kalbfleisch. Secretary—Dr. J. E. Hett, Kitchener. Treasurer—Dr. T. H. Callahan.
- NIAGARA DISTRICT MEDICAL ASSOCIATION:—President—Dr. E. T. Kellam, Niagara Falls. Secretary—Dr. G. M. Davis, Welland.
- NORTHUMBERLAND COUNTY MEDICAL SOCIETY:—President—Dr. McKenzie, Loggieville, N.S. Secretary-treasurer—Dr. Hayes, Nelson, N.S.
- ONTARIO HEALTH OFFICERS' ASSOCIATION:—President—Dr. H. W. Hill, London, Ontario. Secretary—Dr. J. W. S. McCullough, Toronto.
- ONTARIO MEDICAL ASSOCIATION:—President—Dr. F. W. Marlow, Toronto. Honorary-Treasurer—Dr. G. S. Cameron, Peterborough. General Secretary—Dr. T. C. Routley, 66 Bond St. Assistant Secretary—Dr. F. C. Harrison, Toronto. Annual Meeting, 1920, Toronto, May 26th, 27th and 28th.
- OTTAWA MEDICO-CHIRURGICAL SOCIETY:—President—Dr. A. T. Shillington. Secretary—Dr. J. A. Dobbie. Treasurer—Dr. R. E. Valin.
- OXFORD COUNTY MEDICAL ASSOCIATION:—President—Dr. J. W. Counter, Ingersoll. Secretary-Treasurer—Dr. G. M. Brodie, Woodstock, Ontario.
- PERTH COUNTY MEDICAL ASSOCIATION:—President—Dr. P. F. Quinlan, Stratford. Secretary-treasurer—Dr. F. J. R. Forster, Stratford, Ontario.
- PETERBOROUGH MEDICAL SOCIETY:—President—Dr. N. D. Buchanan, Secretary—Dr. G. Stewart Cameron. Treasurer—Dr. J. Malcolm McCulloch.
- PICTOU COUNTY MEDICAL ASSOCIATION:—President—Dr. C. S. Elliott, Stellarton. Secretary—Dr. John Bell, New Glasgow.
- PRINCE EDWARD ISLAND MEDICAL SOCIETY:—President—Dr. G. F. Dewar, Charlottetown. Secretary—Dr. Yeo, Charlottetown. Treasurer—Dr. W. J. MacMillan, Charlottetown.
- REGINA MEDICAL SOCIETY:—President—Dr. Gorrell. Secretary—Dr. Dakin.
- ST. JOHN MEDICAL SOCIETY:—President—Dr. D. Malcolm. Secretary—Dr. F. P. Dunlop.



HOMEWOOD SANITARIUM GUELPH, ONTARIO

For Nervous and Mental Diseases and Selected Habit Cases.
Seven New Buildings, four of which are residential.
Grounds comprise 75 acres of woods and lawns.

Recreation: In Summer—Golf, Tennis, Lawn Bowling, Croquet and Quoits. In Winter—Gymnasiums,
Bowling Alleys, Billiards, Skating, Skiing, Snowshoeing, and Tobogganing

Diversions—Occupational Rooms, Music Rooms and Library.

Treatment—Daily Medical Attention, Hydrotherapy, Electricity and Massage.

Accommodation—Single Rooms, Rooms with Bath, or Complete Suites. A Good Cuisine.

GUELPH is situated on the Grand Trunk and Canadian Pacific Railways, seventy miles from
Niagara Falls.

Rates are reasonable. For information apply to A. T. HOBBS, Medical Supt.

Help the Heart Help the Kidneys

Circulatory stasis induced by impaired cardiac force and deranged filtering function of the kidneys, brings about and maintains effusion of serous fluid into the tissues. Anasarca, Ascites, Dropsy is more than a symptom. It is a condition that demands careful, effective treatment. Anasarcin Tablets strengthen the heart and regulate its rhythm. Anasarcin Tablets increase urinary output, both of fluid and salts. Anasarcin Tablets do not disturb digestion, produce arteriole contraction, or exert cumulative effect.

Anasarcin Tablets can be regulated in dosage to meet the indications present in each individual case.

Sample and literature to physicians on request

The Anasarcin Chemical Co. - Winchester, Tenn.

Influenza

Prevention and Treatment

Mixed bacterial vaccines for the prevention and treatment of common colds and influenza were first produced commercially in the United States by the Mulford Laboratories, in 1910. Since its introduction, the formula of **Mulford Influenza Serobacterin Mixed** has been maintained unchanged.

During the influenza epidemic of 1918, additional strains obtained from virulent cases in different parts of the country were added. These strains include:

Influenza Bacillus (Pfeiffer).
 Streptococcus (hemolytic and viridans).
 Staphylococcus (aureus and albus).
 Pneumococcus (types I, II, III, IV).
 Micrococcus catarrhalis.
 Bacillus Friedlander.

The experience of physicians who used **Mulford Influenza Serobacterin Mixed** in industrial institutions and private practice confirmed their belief in its efficiency, both as a prophylactic and therapeutic agent.

Influenza Serobacterin Mixed is supplied as follows:

M 109-0 —4-syringe . . .	1 immunization.
M 109-9 —5-mils . . .	2 immunizations.
M 109-4 —20-mils . . .	8 immunizations.

AS immunity is only relative, there is an advantage in four injections, beginning with a small initial dose, progressively increased, thus affording a more complete and lasting immunity.

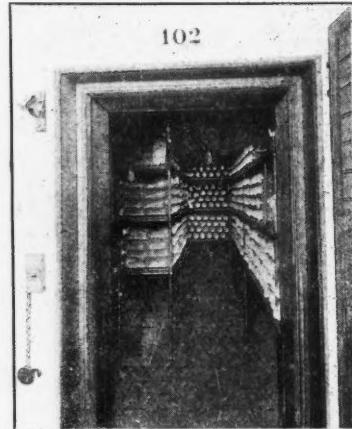
Always specify "Mulford" on your orders and prescriptions



H. K. Mulford Company

Manufacturing and Biological Chemists

Philadelphia, U. S. A.



Section of Incubator for growing bacteria.

W. LLOYD WOOD, Toronto, General Agent for Canada

CLINICAL RECORD

DATE

October 15, 1919

NAME

Allan Edwards

AGE

14

TEMP.

103.1 F

ADDRESS

2136 Boulevard

PULSE

110

DIAGNOSIS

Tonsillitis

TREATMENT (Immediate)

Liq. Magnes. Citrat. 1 glassful
Rx Salicin gr X. Caps. No. 1 Ft Caps.
No. XXIV. Sig. A capsule every 2 hours.

Gargle and spray with DIOXOGEN
(1 part to 5 or 6 of warm Sal. sol.) Every hour or two.

MEMO. Improvement marked. Temp. next
A.M. (Sat.) 100.2 F. Patient much more comfortable.

Oct. 19 - Temp. normal. Tonsils restored
to original size; no inflammation.

Recovery complete - no complications.

• • •

CLINICAL REPORTS

from many physicians tell conclusively of the soothing, antiseptic action of DIOXOGEN in tonsillitis, pharyngitis, rhinitis and nose and throat affections generally. The above report well indicates the part DIOXOGEN plays in the effective treatment of tonsillitis and kindred ills. Its antiseptic efficiency plus its prompt and gratifying effect on inflamed and congested tissues have made it an indispensable adjunct in the practice of many a practitioner. DIOXOGEN, moreover, is as useful for prophylactic, as it is for remedial purposes.

THE OAKLAND CHEMICAL CO., 10 Astor Place, New York

A Dependable Diet

Correctly balanced
Easily assimilated
Cleanly prepared



Rich uniform milk
Choice wheat extract
Hardy barley malt

HORLICK'S MALTED MILK CO.

Racine, Wis. Slough, Bucks, Eng. Montreal, Can.

URASAL

URASAL dissolves and eliminates uric acid.
Clears the Kidneys and the articulations—
supplies the arteries.

Sold by all druggists, prescribed by the leading
Physicians.

Sample and literature mailed to Physicians on
request.

Manufactured by

FRANK W. HORNER LIMITED
40 St. Urbain Street MONTREAL, P.Q.

